University of Alberta

Patient Satisfaction in Alberta: An Empirical Analysis

by

Jonathon Shaughn Patrick Franklin

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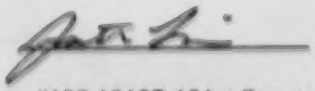

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled Patient Satisfaction in Alberta: An Empirical Analysis submitted by Jonathon Shaughn Patrick Franklin in partial fulfillment of the requirements for the degree of Masters of Arts.

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In loving memory of my Mother

Abstract

Patient satisfaction has become an important performance indicator for the delivery of quality medical care services. Despite the importance of patient satisfaction, theoretical and methodological problems have contributed to many inconsistencies in the literature and to inadequate definitions of the concept of satisfaction. While patient satisfaction is considered an important outcome measure of quality health care services, it has traditionally been analyzed using only a limited number of implicit assumptions. The present study conceptualizes patient satisfaction as a multidimensional construct dependent on patient experience with the structure, process and clinical outcomes of medical care. Predictor variables include: patient sociodemographic characteristics (health status, age, gender, education, income and health region), perceived availability of medical services, the provision of home care services, patient-provider communication, perceived involvement in medical care and clinical outcomes. Results indicate that the sociodemographic characteristics of patients are poor predictors of patient satisfaction. Instead, patients appear to derive their ratings of satisfaction from direct experience with the structure, process and outcomes of their medical services. The finding that patients discriminate between different dimensions of care is important in understanding how judgements of satisfaction evolve in response to interactions with the medical care system and has important implications for the efficient and effective delivery of health care services.

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Chapter 1: Introduction

As the federal and provincial governments continue to restructure the Canadian health care system, issues of quality have become increasingly important. Questions regarding what services should be delivered and at what costs have come to the forefront of policy initiatives. In response to these questions there has been growing recognition of the value of patient satisfaction, not only for effective and efficient provision of medical treatment, but also in the planning and evaluation of health services (Rachlis and Kushner, 1994). Patient satisfaction is potentially an important dimension of health care because satisfaction may influence whether prospective patients seek medical help, comply with treatment and maintain continuous relationships with their health care providers. As a result, patient satisfaction has gained increasing attention from researchers, health care administrators, practitioners and evaluators of health care, all of whom which have an interest in improving the efficiency, effectiveness and quality of health care.

In a review of the literature, Fitzpatrick (1991) found the majority of patients (upwards of 80 percent or more) appear to be satisfied with their medical care. Despite the positive connotation of high satisfaction, uniformly high levels of satisfaction have led to doubts over the sensitivity of measures of patient satisfaction, the appropriateness of the dimensions of satisfaction selected for study and the inability of satisfaction instruments to discriminate between satisfied and dissatisfied patients (Carr-Hill, 1992; Avis, Bond and Arthur, 1997; Williams, Coyle and Healy, 1998). It has been argued that the high levels of satisfaction obtained within the literature can be attributed to problems of response

acquiescence (Ware, 1978), cognitive consistency (Sitzia and Wood, 1997), social desirability (Hays and Ware, 1986), response bias (Hulka et al, 1975a; Owens and Batchelor, 1996) and the oversimplification of the relationship that exists between overt behavior and satisfaction (Liska, 1974).

There is a growing concern that many satisfaction instruments are not valid (Avis, Bond and Author, 1995) and that many purported satisfaction surveys do not evaluate the concept at all (Williams, 1994; Owens and Batchelor, 1996). As a consequence, many findings within the literature may be the outcome of artifactual data derived from poorly constructed measurement instruments (Pascoe, 1983). Much of the literature has also been criticized for not operationalizing satisfaction as a discriminate measure (Carr-Hill, 1992). There are relatively few established correlates of satisfaction and even accepted measures of satisfaction typically do not yield high correlations. It is for these reasons that a coherent framework for operationalizing the concept of patient satisfaction has yet to materialize.

Despite the proliferation of research, there remains no evidence to suggest at what point patients' satisfaction with their care stops and where dissatisfaction begins (Pascoe, 1983). Traditionally research has only ranked patients on dimensions of satisfaction rather than to establish a clear differentiation between satisfied and dissatisfied patients (Davis and Ware, 1981). It is therefore tempting to equate high levels of satisfaction with high levels of quality medical care. However, when comparing findings obtained in the literature it is necessary that "expressions of satisfaction . . . be interpreted in the context of some understanding of the rationale that underlies those expressions rather than being taken at face

value" [289] (Locker and Dunt, 1978). For example, data which reveal that 80 percent of patients are satisfied is only significant if an objective standard is identified in which to compare satisfaction findings across studies. If no such standard exists, caution should be exercised when interpreting high ratings of satisfaction. The lack of an objective standard has led some researchers to suggest that positive satisfaction findings should not be interpreted as indicating that care was particularly effective, but simply that nothing extremely negative occurred to the patient during their treatment and care (Williams, 1994).

Despite methodological problems there is evidence to suggest that satisfaction is a valid and reliable measure of medical care if estimated properly. Greater response variability has been obtained with regard to questions targeting specific dimensions of medical care and there is evidence to suggest that patients are able to distinguish among various facets of care when they rate its quality (Rubin, 1990; Williams and Calnan, 1991). For example, patients have been shown to accurately appraise the competency of physician performance (Kisch and Reeder, 1969) and even small differences in satisfaction ratings are associated with change in health care practitioners (Ware and Davis, 1983; Marquis, Davies and Ware, 1983). Studies of various dimensions of medical care have also supported the validity of patient ratings of satisfaction. For example, satisfaction has been established as a reliable predictor of compliance behavior (Fitzpatrick, 1990), health status (Pascoe, 1983), continuity of care (Larson and Rootman, 1976), patient involvement in care (Carr-Hill, 1992), utilization of health services (Ware and Davis, 1983) and effective patient-provider communication (Francis, Korsh and Morris, 1969).

Despite the fact that patient satisfaction is considered an important outcome measure of quality medical care, the construct of satisfaction has traditionally been analyzed using only a limited number of implicit assumptions. The present research proposes to develop an empirical model of patient satisfaction that operationalizes satisfaction as a multidimensional construct. Drawing from the literature and the evolving taxonomy of patient concerns with their medical care, a model of satisfaction will be examined which presumes that patients judge their level of satisfaction by their responses to questions assessing the availability of medical services in their community, the provision of home care services, the interpersonal communication between patients and their health providers, patient involvement in their care, clinical outcomes and sociodemographic variables. The proposed model will be used to develop a taxonomy of the relative importance of these variables as predictors of patient satisfaction. Implicit in this model is the assumption that patients can discriminate between the quality of various dimensions of their medical care and that patient satisfaction is directly determined from evaluations of the structure, process and clinical outcomes of their care.

Chapter II: Literature Review

Overview

Traditionally, the literature on patient satisfaction has focused on two distinct areas. First, satisfaction has been operationalized as an independent variable, insofar as there may be behavioral consequences for patients who are dissatisfied with their care. For example, satisfied patients are typically more compliant with physician instructions (Larson and Rootman, 1976; Fitzpatrick, 1990), utilize health services more effectively (Ware and Davis, 1983) and are more likely to maintain regular appointments with their health care providers (Hulka and Zyzanski, 1982; Doering, 1983). Second, it has been argued that satisfaction, along with health status, is the ultimate outcome of the delivery of health services (Donabedian, 1966). Satisfaction therefore should be evaluated to determine the extent to which interactions with the health care system produce satisfied patients. Patient satisfaction has been operationalized as a dependent variable, insofar as ratings of satisfaction contain information about the structure, process and clinical outcomes of care. Structure refers to the relatively stable characteristics of providers and their institutional organizations, including the availability of care, delivery of medical services and the conditions in which care is provided. Process refers to the technical aspects of diagnosis and treatment, patient-provider interactions and their relationship to the health and well being of patients. Clinical outcomes then refer to the change in current and future health status that is directly attributable to the medical treatment received. The present research will look specifically at the structure, process and clinical outcomes of care as these variables relate to patient satisfaction.

The Concept of Satisfaction

What is satisfaction? What does it mean to different people? How is satisfaction defined among the patient population? Despite the wealth of studies focused on patient satisfaction there remains little consensus regarding the definition of patient satisfaction or how patients' prior beliefs, experiences and knowledge of health services influence judgements of satisfaction. Carr-Hill (1992) has asserted that the interpersonal and over-time variability that is inherently connected with patient satisfaction makes it difficult to define a unitary concept of satisfaction. Locker and Dunt (1978) maintain that because the sources of dissatisfaction with health services can vary widely, satisfaction becomes defined very differently by different people and even by the same person at different times. The lack of a clear conceptualization of what it means for patients to be "satisfied" with their medical care has been the greatest weakness in the patient satisfaction literature (Locker and Dunt, 1978; Abramowitz, Cote and Berry, 1987; Williams, 1994) and has led to serious theoretical and methodological reservations about much of the literature's validity (Fitzpatrick and Hopkins, 1983; Hall, Milburn and Epstein, 1993; Williams, et al., 1998).

For the purposes of this research, patient satisfaction will be defined as a patient's evaluation of salient dimensions of the structure, process and clinical outcomes of their medical care. This definition, derived from the work of Pascoe (1983), conceptualizes patient satisfaction as an evaluation which emerges from directly received medical services. The act of evaluation involves two related dimensions. The first is a cognitively based evaluation of the structure, process and outcomes of care. The second is an affectively based

response to the structure, process and outcomes of care. Thus satisfaction becomes a measure by which salient characteristics of the patient's medical care experience is compared with a subjective standard. Experiences that fall within a level of acceptance relative to the patients subjective standard of care will result in ratings of satisfaction, whereas experiences that fall outside the latitude of acceptance will result in ratings of dissatisfaction (Pascoe, 1983). In this way, satisfaction can be conceptualized as both an evaluation of care and as a subjective reflection of the respondent.

Problems in the Literature

Although a large body of literature exists on patient satisfaction, conceptual and methodological problems have limited the generalizability of findings. Five problem areas have been identified in relation to the present research. First, much of the satisfaction literature has been based on assumptions concerning patient expectations and the patient's ability to adequately rate the technical components of their care. However, these assumptions have yet to be empirically validated. Second, it has been argued that the implicit assumptions underlying much of the satisfaction research may not be grounded in the values and experiences of all patients (Speedling and Rose, 1985; Avis, et al., 1995). Much of the patient satisfaction research has been derived from the objectives of providers. As a consequence, several possible predictors of patient satisfaction have remained relatively unattended to in the literature (e.g., how structural changes in the delivery of health services affect satisfaction). Third, the majority of health related research has occurred in the United States and the United Kingdom. As a result, many of the findings in the literature are based

on assumptions that may not be applicable within the Canadian context (e.g., satisfaction with costs, differential access to care, availability of health services, etc). Fourth, sociodemographic correlates of satisfaction continue to be the most researched variables in the literature, despite the relative lack of direct evidence concerning sociodemographic correlates of patient satisfaction. The spuriousness of these variables implies that they may be moderated by other factors implicit in the structure, process and clinical outcomes of care. To date, the effect of moderator variables has largely been ignored in the literature. Finally, methodological and theoretical weaknesses have hampered the development of testable theories of satisfaction and thus have limited the potential impact of satisfaction research (Hall and Dornan, 1988a). There exists a need to develop theoretical models of satisfaction and valid and reliable measures to test these models.

Expectations

A fairly large amount of satisfaction research has been derived from the assumption that patients base their evaluations on sophisticated expectations which stem from beliefs about ideal or anticipated situations concerning the technical quality and comprehensiveness of care, including the social roles implicit in patient-provider interactions (Lochman, 1983). These expectations may be associated with the patient's sociodemographic characteristics (e.g., age, gender, ethnicity, income, etc), past experience and/or knowledge gathered from previous health care interactions. For example, patients with high expectations prior to their medical encounters tend to convey higher ratings of satisfaction than patients with lower expectations (Linder-Pelz, 1982) and patient satisfaction appears to be influenced by the

degree to which a physician's perceived role performance meets their expectations (Larson and Rootman, 1976).

While patients frequently describe their experiences in positive and negative terms, the actual process by which patient experiences are transformed into ratings of satisfaction appears to be more complex (Williams et al., 1998). Expectations tend to vary according to the patient's prior experience and understanding of their medical condition and are likely to change with accumulating knowledge and experience. As a consequence, patients tend to replace ideal expectations of care with more practical expectations as treatment progresses (Fitzpatrick and Hopkins, 1983; Williams, 1994; Owens and Batchelor, 1996). If these "new" expectations are subsequently met by their providers, patients appear to be more inclined to rate their care as satisfactory despite their lowered expectations for care (Doering, 1983). Others have suggested that it is precisely those patients with the lowest expectations that tend to be the most satisfied with care because they are the ones whose expectations are most likely to be fulfilled (Abramowitz et al., 1987). Thus there remains debate whether patients are generally satisfied with their medical care or whether they have generally low expectations of their care (Sitzia and Wood, 1997).

Despite numerous studies of the association between patient expectations and subsequent ratings of satisfaction, there is little consistent empirical evidence to support the assumption that expressions of satisfaction are the result of the fulfilment of patient expectations (Like and Zyzanksi, 1987; Brody et al., 1989; Williams et al., 1998). In a study of patients from a cardiology and respiratory medicine outpatient clinic, Avis, Bond and

Arthur (1997) presumed that patients judged their level of satisfaction by comparing their experiences of care with prior expectations of their medical encounter. However, 85 percent of patients who had high expectations prior to meeting with their health care providers were satisfied with their consultations despite that fact that over one-third of these patients acknowledged disappointment with some aspect of their consultations. Relatedly, Linder-Pelz (1982) found expectations to consistently explain most of the variance in satisfaction ratings, independent of whether their expectations were actually fulfilled. Linder-Pelz concluded that ". . . beliefs about doctor conduct prior to an encounter play a significant role in determining subsequent evaluations of the doctor conduct, irrespective of what (s)he actually did or was perceived to have done"[588].

Williams (1994) has presented three arguments against the use of expectations as predictors of satisfaction. First, there remains no consistent evidence that expectations and satisfaction are causally related. Expressions of satisfaction which reflect the fulfillment of expectations may therefore reveal little about the quality of the actual care received. Expressions of satisfaction derived from patient expectations, therefore, cannot be unquestionably perceived as evidence of quality health care. Second, patient satisfaction with specific dimensions of care may not be causally related to patient approval ratings of those same dimensions of care. Patient satisfaction may originate from factors outside of the current medical encounter. It is therefore possible that patients' evaluations of their health services may be independent of actual care received. Finally, clear expectations for medical services and encounters may be readily available in some cases, however, most patients will

not have any prior experience with more complex and advanced medical procedures and thus apparent expectations may not exist. The lack of preconceived expectations may attest to findings that patient evaluations of technical matters explain little of the variance in global satisfaction despite the fact that technical aspects of care are the main determinant of clinical outcomes (Cleary et al., 1989). In such a scenario patient satisfaction may simply be a reflection of the role patients adopt in relation to the health care intervention irrespective of the quality of care received (Williams, 1994).

The expectations model of satisfaction provides only a limited understanding of the way that patients evaluate their health care services. Some have gone as far as to claim that "Questionnaires based on the assumption that patients judge their satisfaction by comparing their care with a set of ideal positive expectations may be creating the 'satisfaction' of such expectations as an artifact of the study." [90] (Avis, et al., 1997). Thus it is necessary to move beyond expectations to examine more quantifiable characteristics of how the structure, process and outcomes of care relate to satisfaction.

Evaluating the Technical Quality of Care

The technical quality of care has been defined to include adherence to high standards of diagnosis and treatment (e.g., thoroughness, accuracy and elimination of unnecessary risks and mistakes) and the competence of providers (Ware et al., 1983). However, patient evaluations of the technical skill and medical competence of their health care providers appear to be largely determined by their perceptions of their physicians friendliness, interpersonal skills and ability to communicate effectively (Ben-Sira, 1976). Patients enter

into medical interactions with less knowledge of diagnosis and treatment options than their physicians and as a result the affective component of their physician's communication appears to supercede patient evaluations of the technical quality of care (Ben-Sira, 1980). For example, Segall and Burnett (1980) found the effects of perceived physician conformity with patients' affective expectations predicted patient evaluations of physician technical competence more accurately than either physician conformity to procedural or administrative expectations.

It has been suggested that from the patient's perspective, technical competence varies little from physician to physician or from one medical visit to the next, whereas communication competence is likely to be more variable (Buller and Buller, 1987). Concordantly, patient assessments of their physicians' interpersonal communication skills have been established as a more reliable predictor of satisfaction than the technical quality of care, in part due to the fact that patients tend to be more confident when rating aspects of interpersonal qualities of their health care providers than rating their provider's medical skills (Fitzpatrick, 1984; Bond and Thomas, 1992).

Accurate and complete communication of diagnosis and treatment has been indicted as a necessary condition for the provision of technical care (Cleary and MacNeil, 1988). However, if patients are not completely informed about diagnosis and treatment options they will be less able to accurately judge the technical quality of care they receive. For example, older patients and patients of lower socioeconomic status are often given less complete communication when compared to younger patients and patients of higher socioeconomic

status (Waitzkin, 1985). Not surprisingly, these same subsets of the patient population are less reliable in their ability to differentiate their physicians' technical competence from their affective behavior than are younger patients and patients of higher socioeconomic status (DiMatteo and Hays, 1980).

Patients must be able to discriminate between a highly skilled and knowledgeable health care professional and one who is not if they are to accurately rate the technical quality of care received or the competence of their physician. However, a relative lack of medical knowledge excludes patients from attending to the more instrumental aspects of the care they receive from their physicians. Avis, et al. (1997) revealed that most patients were unable to accurately assess judgements of their health care experiences because they were unable to discern the technical nature of their health services. Patients were unsure whether they were justified in commenting negatively about the technical facets of care, particularly when it was about services they were dependent upon. As a consequence, patients may defer judgement of their health services when they do not consider themselves competent enough to judge them accurately (Gray, 1980), or may give higher ratings to the technical quality of care by default to avoid considering it deficient in some aspect (Hall and Dornan, 1988b).

Patient ratings of the technical quality of care have consistently been operationalized as a determinant of satisfaction despite the fact that most patients are considered poor judges of the technical competence of their health care providers. High correlations between technical care and affective dimensions of care suggest that patients may judge the affective care they receive and then generalize their judgements to issues of technical competency

without sufficient knowledge for such an assessment (DiMatteo and Hays, 1980). As a consequence, the majority of patients may be incapable of judging the abstruse nature of the modern medical system.

While one cannot conclude that the technical quality of care is less important to patients than interpersonal dimensions of care, evaluations of the technical nature of medical care have not been established as reliable measures of satisfaction. The inability of patients to adequately differentiate the technical from interpersonal dimensions of medical services would seem to suggest that ratings of satisfaction derived from technical quality of care are, for the most part, an invalid measure of satisfaction and that alternative approaches to measuring satisfaction should be sought.

Home Care

The shift in disease patterns from acute to chronic illness, in part due to the changing age structure in society has meant that an increasing proportion of patients require long-term medical care. Long-term institutional care services have typically been provided for those patients who are unable to care for themselves in the community. However, structural changes in the delivery of medical care have moved many of these services outside of traditional institutional settings. As conventional ways of coordinating care change, the effect has been to present patients with more a fragmented, less continuous health care experience. Consequences for patients include: shorter hospital stays, emphasis on outpatient treatment and care, increased costs for medications and medical supplies that would have normally been covered in hospital and greater reliance on home care services. Despite the

importance of these trends, the impact of structural changes in the provision of medical services on satisfaction has been largely ignored.

One of the most prevalent changes in health care service delivery in recent years has been the renewed interest in home care as an alternative to institutional care. In response to pressure for cost containment and patient desire to remain in the community, home care services have expanded dramatically in recent years (Burton et al., 1998). Patients who would once have been cared for in an institution a decade ago are now being sent home earlier, as are those who would have spent a long recovery time in hospital following treatment and surgical procedures. Home care offers some potential advantages to traditional institutional care. First, patients can access care in surroundings that are both familiar and comfortable which may facilitate better clinical outcomes. For example, Burton et al., (1998) found the majority of patients prefer home treatment when compared to hospital care, despite the fact that only slightly more than half (57 percent) of patients felt that the medical care they would receive at home would equal the care received in a hospital. Second, home care has the potential to free up inpatient beds for patients who have more pressing health care concerns.

However, the pressure for home care to expand in response to cutbacks has not been met by a commensurate increase in financial resources by the government to develop and maintain alternative delivery systems of medical care. Critics argue that patients may not receive the same level of care at home as they would in a hospital or other health care institution. From a patient perspective, those who do not receive adequate levels of care in

the home are more likely to be readmitted to the hospital and have poorer clinical outcomes (Frankel, Speechley and Wade, 1996). From a provider perspective, Armstrong (1994) argues that cutbacks in long-term care services have been used to make families responsible for the provision of health care once provided by paid workers in the public sector.

As home care has evolved the burden of care has gradually shifted onto the friends and families of the sick and dying. It has been assumed that since families provided appropriate health care to family members in the past they could be made to offer these services once again, despite evidence that health care services are not necessarily more efficiently provided by the public sector or more effectively provided in the home (Armstrong, 1994). Families today are typically smaller, more likely to be geographically separated and those who are cared for in the home typically have more serious illnesses and require more comprehensive health care services than home care recipients from previous generations (Macleod, 1996). While research has shown that the use of home care does keep people out of institutional settings, it may come at considerable expense to home care providers. The additional physical workload for families coupled with the stress and emotional toll that caring for a sick or dying family member has on the household can be substantial.

The majority of the workload created for families falls primarily on the shoulders of women, who more often than not take on the role of primary caregiver. Studies have established that almost 40 percent of women in Canada who combine work with home care responsibilities experience moderate to severe levels of stress and anxiety (MacBride-King,

1995). In addition, home care providers typically report higher feelings of exhaustion (Health Canada, 1996b), diminished emotional health (Armstrong, 1994) and social isolation (Macleod, 1996). Economically, the provision of home care responsibilities places an even greater strain on low-income earners and families who often must purchase items normally provided free-of-charge to patients who are cared for in institutional settings. As a consequence, the psychological, physical and economic burdens on home care providers may ultimately be cause for dissatisfaction with the health care system.

The deinstutionalization of health care services coupled with an ageing population, will most likely increase the demand for home care in the future. Changes in patterns of morbidity and mortality from acute to chronic illnesses have meant that today's elderly and infirm often live with illnesses or functional disabilities that would have meant death for a previous generation. Many of those who are currently being assigned to home care have health problems that have never been cared for in the home in the past (Armstrong, 1994) and the complexity of needs of some of today's home care recipients may expand beyond the purely medical sphere (Cox, 1992). For example, functional limitations of some elderly home care recipients may stem from social and mental deficits in combination with physical impairments. As a result, the burden on those who provide home care responsibilities becomes magnified by the complexity and nature of the illnesses they must deal with.

While the quality of life for home care recipients would seem to rise as the result of being assigned to home care, home care appears to have an opposite effect for many of those who provide home care responsibilities. Despite the importance of these structural changes

in the delivery of medical services, there remains a gap in the satisfaction literature which has not accounted for how these changes impact upon ratings of satisfaction for either patients of home care or those who provide home care responsibilities.

The Canadian Context

A relatively neglected issue in the literature has been the context in which the majority of patient satisfaction research has been investigated. Typically patient satisfaction has been examined in the health care contexts of either the United States or the United Kingdom, with few studies examining patient satisfaction within the framework of the Canadian health care system. While results can be inferred from studies conducted in the U.S. and the U.K., comparative studies have been criticized because they operate with "mistaken global conceptualizations" or "inappropriate operationalizations" of the health care systems in question (Brody and Lie, 1994). Ideological differences in the development and implementation of health policy between countries mean that variables which have been shown to be significant predictors of satisfaction in other countries cannot be generalized unproblematically to the Canadian health care context.

The United States is the only industrialized country in the world without a national health insurance policy. Instead, health care costs in the U.S. are largely determined by market conditions. Health care providers such as physicians and hospitals are mostly private and operate under minimum government intervention. As a result, approximately 35-40 million Americans have no health insurance. Of those Americans that are insured, more than 50 million have such poor coverage that a serious illness would result in personal bankruptcy

(Kelly and Maas, 1994). Health care services in the U.S. are concentrated in the wealthiest suburbs and areas of major cities leaving the poorer areas with inadequate services. Comparatively, the number of physicians and hospital beds per 100,000 people can differ as much as four or five times between rich and poor communities (Dunlop and Martins, 1995). While public facilities do exist, for the most part they are severely underfunded and overcrowded and are characterized by long waiting lists for surgeries and medical beds. As a consequence of the market-driven medical context, many studies that originate in the U.S. emphasize socioeconomic status, access and availability of medical services, cost effectiveness and/or billing of services as predictors of patient satisfaction (e.g., Hulka et al, 1971; Greene, Weinberger and Mamlin, 1980; Hall and Dornan, 1990).

While not completely market-driven, the United Kingdom's National Health Service (NHS) is a form of mixed health economy where consumerism and the public utility remains somewhat blurred. As of 1995, waiting lists for surgeries numbered more than one million people. Despite long waiting lists for surgery there is no economic incentive for physicians to take on larger caseloads, increase admission rates or reduce the length of stays in hospitals because physicians are not paid on a fee-for-services schedule as they are in the U.S. and Canada (Dunlop and Martins, 1995). As a consequence of low hospital admission rates and long waits for surgeries there has been considerable growth of private hospitals in the U.K. For those with private insurance the advantages include: easier access to see a specialist for a non-urgent condition, long waiting lists for surgery are avoided and admissions to hospitals are arranged at a time convenient to the patient. As a result, the availability and accessibility

of services have become a popular predictor of satisfaction, especially in comparative studies of private versus public hospitals (Calnan, 1988).

Despite the utility of these predictors within their respective contexts, it is important to consider differences in the way that services are delivered and how this may impact upon satisfaction. In the Canadian context, access to health care is universal and coverage is comprehensive. In comparison to the market economy approach to medical care there is less risk of over-provision to those who can pay and lack of access to those who cannot. For example, low-income Canadians have much better access to available health care services than low-income Americans (Rachlis and Kushner, 1994). As such, the utility of income and accessibility as predictors of satisfaction may be insignificant in the need-based context of the Canadian health care model or may be significant for completely different theoretical reasons. Therefore, there is reason to question the generalizability and relevance of the existing literature when the Canadian model is examined. Despite these important theoretical differences, there has been only sparse literature directly testing patient satisfaction using data derived from Canadian studies.

Sociodemographic Characteristics

Despite universal access to health services, the Canadian health care system has not managed to eliminate disparities in health among certain populations. Overall, inequities exist in health status by age, gender, income, education and geographic area. Canadians of lower socioeconomic status continue to have significantly lower life expectancy, fewer years of disability free life expectancy and higher rates of morbidity and mortality than Canadians

in the highest socioeconomic groups (Health Canada, 1996a). Many studies have suggested that income (McLaughlin et al., 1989), age (Costanza, 1992) and gender (Burstin, Lipsitz, and Brennan, 1992) may be risk factors for unequal access to medical treatment and differential treatment by physicians. Interrelationships between sociodemographic factors may mean that significant proportions of the population may be "doubly disadvantaged".

Studies of the relationship between patients' sociodemographic characteristics and satisfaction with health services are based on the implicit assumption that all patients receive the same medical care services and therefore differences in satisfaction are due to differences in socialization (Carmel, 1985). However, despite the proliferation of research into sociodemographic correlates of satisfaction, patient characteristics have failed to consistently predict patient satisfaction (Locker and Dunt, 1978; Murphy-Cullen and Larson, 1984; Like and Zyzanski, 1987; Cleary et al., 1989).

In a meta-analysis of the literature, Hall and Dornan (1990) concluded that the sociodemographic characteristics of patients are at best a minor predictor of patient satisfaction. Fox and Storms (1981) have gone as far as to conclude that "The literature on satisfaction with health care presents contradictory findings about sociodemographic variables . . . The situation has grown so chaotic that some writers dismiss [sociodemographic] variables as reliable predictors of satisfaction" [p.557]. Williams (1994) has argued that the preoccupation with identifying sociodemographic correlates of satisfaction has come at the expense of developing grounded theories of patient satisfaction. The validity of the concept of satisfaction is thus compromised because its measurement

continues in spite of the fact that little is known of how patients arrive at their judgements of care.

Despite the inconsistent nature of sociodemographic variables in predicting satisfaction directly, it is possible that these variables are moderated by some intervening variable(s). Sociodemographic variables have been established as relatively consistent predictors of patient-provider communication, the extent to which patients become involved in their medical care and clinical outcomes - variables that are traditionally associated with patient satisfaction. Overall, the literature has failed to examine the possibility that sociodemographic variables are moderated by the structure, process and outcomes of care. An analysis of these possible effects may help explain the spurious nature of sociodemographic correlates of satisfaction in the existing literature. The following is a brief review of the findings in the literature as they relate to six sociodemographic determinants of satisfaction: health status, age, gender, education, income and sparely versus densely populated health regions.

Health Status

Patients with fewer illnesses, fewer symptoms and fewer health-related complaints tend to report higher ratings of satisfaction with their medical care than patients who are sicker or chronically ill (Linn and Greenfield, 1982; Pascoe, 1983; Cleary et al., 1989; Hall et al., 1990; Hall, et al., 1993). Charles et al., (1994) found that patients who perceived their health status as poor were more likely to have emergency hospital admissions, to be less involved in their care, to communicate less with their providers and to be less knowledgeable

about their illness. In contrast, Williams and Calnan (1991) reported no significant correlation between patient satisfaction and health status in either primary or hospital care settings, nor did Fox and Storms (1981) find a relationship between health status and overall satisfaction when age, sex, usage and access to care were adjusted for.

If health status is indeed correlated with satisfaction, it becomes important to consider preexisting differences in health among respondents. Health status is directly affected by personal health related behaviors and by environmental conditions that themselves often influence health behaviors. Differences in these factors may influence satisfaction with medical care to varying degrees. For example, the psychological experience of having a chronic, or debilitating illness has been linked to overall dissatisfaction with health care services (Hall et al., 1990). Patients who suffer from chronic illnesses are also more likely to be dissatisfied with their health care providers (Hall et al., 1990) and are more dissatisfied with life in general (Linn and Greenfield, 1982; Hall et al., 1993). These findings suggest that patients' sense of their physical and emotional well-being may significantly influence subsequent ratings of their satisfaction with their medical care. Considering that over half (55 percent) of all adult Canadians report at least one chronic illness (Statistics Canada, 1995), chronic illnesses may have important implications for how patients derive their ratings of satisfaction.

While it is important to test these assumptions about health status, it is difficult to control for the differences in preexisting health status which may cause patients to become more or less satisfied with their care. First, baseline health status may be related to some

aspects of satisfaction but not to others. Second, associations between baseline health status and satisfaction with care may be spurious (Cleary and McNeil, 1988). An individual's health beliefs (attitudes, values and knowledge that people have about health that influence their subsequent perceptions of need and use of health services) introduces problems of measurement. In terms of symptom etiology, chronic illnesses will vary from individual to individual in terms of variability, severity, frequency and coping mechanisms, among other factors. Winefield, Murrell and Clifford (1995) found some patients with chronic conditions regard the lack of deterioration in their condition as an acceptable outcome of care. Some patients with a chronic illness or disability such as arthritis may consider themselves quite healthy, whereas others will find similar conditions debilitating. As a result, the definition of health status becomes narrower or more expansive, depending on how narrowly or broadly the concept of health is defined.

Age

Demographic changes in the Canadian population pose particular challenges to the medical profession to modify traditional health care practices to meet the needs of an aging population. The pattern of health care use by the elderly dictates that they consume a larger amount of medical services as a result of their higher than average frequency of illness. Possibly as an outgrowth of their higher rates of illness, the elderly are more likely to seek medical care at earlier stages of illness and have more continuous relationships with their health care providers (Roos et al., 1980). More continuous and personal relationships with providers may be one reason that the elderly have traditionally been found to be more

satisfied with their medical care when compared to younger patients (Linn, 1975; Cleary and McNeil, 1988; Hall and Dornan, 1990; Cohen, 1996). However, findings that the elderly are more satisfied with their care are not always consistent (see Lochman, 1983; Pascoe, 1983).

Satisfaction appears to be higher among the elderly despite evidence that age may affect the quality of care provided by physicians. Physicians typically prescribe elderly patients more drug treatments without true evidence of need, provide the elderly with less time for consultation and administer poorer instructions concerning treatment and medications (Lamy, 1984). A lack of coordination of health services and lack of understanding of seniors needs by health care providers have been indicted as one reason why seniors' health needs are often left unmet (Macleod, 1996). Communication problems as the result of hearing and vision impairments, memory problems as well as neurological and physical impairments may further limit patient-provider dialogue, successful diagnosis, completion of treatment, clinical outcomes, as well as the involvement of the elderly in their medical decisions.

The aforementioned factors should predict dissatisfaction with medical care in the elderly population, however, generally this has not occurred. It has been suggested that the elderly are more satisfied with their medical care because they place more importance on physician-directed communication than technical care, or because they are more familiar with medical procedures and their association with wellness due to their higher rates of illness (Buller and Buller, 1987). Others have argued that the elderly may receive more courteous care and are given more information than other patients (Hooper et al., 1982), have lower expectations of their medical care (Cleary and McNeil, 1988), are less concerned with the

amount of communication with their providers (Cohen, 1996), are less able to effectively evaluate their care and are less judgmental than younger patients, especially if they fear that expressing dissatisfaction may compromise future medical care (Owens and Batchelor, 1996). As a result, it remains unclear as to whether the association between age and satisfaction is the outcome of actual differences in the ways that the elderly quantify their satisfaction with medical care, or is the result of differential response tendencies or other spurious variables (Cleary and McNeil, 1988).

Gender

"The embodiment of gendered norms in social institutions and practices has subordinated women, inhibited their achievement of political, cultural, social and economic equality and as a consequence, impeded their attainment of optimal health services" [17] (Health Canada, 1996a). The result has been the medicalization of natural life occurrences such as the onset of menses, childbirth, reproduction and menopause often to the detriment of gender-specific risk factors, disease courses and effectiveness of treatment in health conditions common to both males and females (Health Canada, 1996a). Studies have established that women utilize physician services at almost one and a half times the rate of men, independent of utilization associated with pregnancy (Hibbard and Pope, 1983), receive less thorough diagnostic evaluations and more prescription medications than men for identical symptoms (Bernstein and Kane, 1981), have their dialogue with their physicians interrupted more frequently than male patients (Waitzkin, 1984), receive more psychotropic medications (Verbrugge, 1985) and are less satisfied with hospital facilities and their general practitioners (Williams and Calnan, 1991).

It has been argued that physicians have preconceived ideas about gendered health issues that reinforce the idea that women are more dependent and less competent than men (Bernstein and Kane, 1981). As a consequence, physicians are more likely to label female patients as making excessive demands on their time, to be influenced by emotional factors and as having more psychosomatic ailments. Bernstein and Kane suggest that differences in physician responses to treatment across gender are not due simply to bias against women, but may be a complex reaction to the open and expressive behavioral style more frequently exhibited by women. For example, women tend to voice more complaints than men, express more fear and worries, are more sensitive to symptoms of illness and believe themselves to be more susceptible to illness (Nathanson, 1977). As an outgrowth of women's more expressive behavioral style some physicians appear to be more apt to treat a physical ailment as an emotional problem in a female patient and an emotional problem as a physical ailment in a male patient.

In contrast, female patients are more knowledgeable about medical techniques and treatments than male patients which may reduce anxiety (Buller and Buller, 1987) and may have easier access to health services resulting in earlier diagnosis of asymptomatic problems because they receive more continuous care from their physicians than men (Verbrugge, 1985). Moreover, physicians typically provide more information to women (Hall, Roter and Katz, 1988), are more empathetic to female patients (Hooper et al., 1982), spend more time with female patients in consultations and provide them with more nondiscrepant responses (Waitzkin, 1984). Gender has also been described as an important causal agent in illness orientation (Hibbard and Pope, 1983). The social acceptability of women to admit to illness,

discuss symptoms and ask questions may account for differential rates of health seeking behavior and involvement in treatment. For example, healthy women are more likely than healthy men to take preventive health measures, particularly those that involve medical intervention (Nathanson, 1975) and to ask more questions and engage in more verbal exchanges (Waitzkin, 1984). As a result, satisfaction with patient-provider communication appears to be higher among women (Hall, et al., 1988) as is satisfaction with medical care in general (Hsieh and Kagle, 1991).

In Canada, on average, women will live longer than men, suffer more chronic and disabling diseases, are better educated, have significantly smaller earnings, have less access to supplementary health insurance and have differential rates and types of exposure to health risks than men (Health Canada, 1996a). Gender role socialization, obligations and expectations have been established as important factors for differential experiences and satisfaction with health care services between men and women (Hibbard and Pope, 1983) and to influence patients' reactions to physician behavior (Hall et al., 1994). Gendered norms shape the presence, incidence and nature of patient interactions within the medical system and ultimately satisfaction with care. However, the breadth and complexity of gender issues in health care have been indicted as one reason why gender has not been established as a reliable predictor of overall patient satisfaction (Hulka et al., 1971; Linn and Greenfield, 1982; Doering, 1983; Hall and Dornan, 1990).

Education

Patients with lower levels of education have traditionally been more satisfied with their medical providers and more satisfied with their medial care in general than patients with

high levels of education (Linn, 1975; Hall and Dornan, 1990; Cohen, 1996). Highly educated patients may be less satisfied with care because of higher expectations as they relate to clinical outcomes of treatment, are less satisfied with the communicative aspect of care, or may formulate more complex evaluations of their care and thus are less satisfied when their treatment does not meet their expectations. However, contradictory evidence has suggested that highly educated patients express higher levels of satisfaction because they are more accurate in their assessments of the technical competence of their physicians and better able to choose health care professionals whom they judged to be technically sound (Hulka et al., 1971).

These findings are consistent with Feinstein's (1993) contention that the availability of health information allows some patients to "work the system" much more effectively, including receiving more accurate diagnosis and more timely treatment. Educated patients may be in better position to take preventive health measures such as routine check ups and diagnostic screenings, to be more aware of new medical information and technology, to be more likely to perform accurate self-diagnoses, obtain more timely treatment, to be more knowledgeable of treatment options, to make informed medical decisions, to properly follow-up upon physician advice and to readmit themselves for care if health problems recur (Feinstein, 1993). Ultimately these factors may have a significant impact on health status and clinical outcomes. For example, men with lower educational attainment have higher rates of mortality following myocardial infarction than men with higher educational attainment (Ruberman et al., 1984) and individuals with a post-secondary degree are much more likely to report their health status as excellent or good versus those with less than a

post-secondary degree (Statistics Canada, 1995).

It would appear that education has a dual role in improving health. First, education increases opportunities for income and job security. Since health status is often reflective of physical and social environment, those with higher levels of education may find it less difficult to adopt health-promoting behaviors because their environments impose fewer obstacles to engaging in these actions (e.g., enabling factors such as economic support, health beliefs, knowledge, intentions, coping skills, access to medical services, etc). Second, education equips people with a sense of control over life circumstances (Health Canada, 1996). Haug and Lavin (1981) suggest that patients who are well educated, informed, and aware of the importance of health are less likely to be intimidated by a physician's aura of authority. Less intimidation may lead to higher rates of seeking second opinions, questioning treatment and diagnosis, demanding information about options, risks and benefits and greater satisfaction with treatment, clinical outcomes and overall care.

Income

Social class position has long been established as a mediator of health status and perceived level of health (Health Canada, 1996b). Evidence suggests that social class position should be one of the most important factors in explaining satisfaction since there are marked social class variations in the experience of ill health. For example, physicians have been shown to communicate more effectively with patients of higher social status (Epstein, Taylor and Seage, 1985), provide them with more information and better care (Hall and Dornan, 1990), have less interest and patience with patients of lower-class (Hall, et al., 1988) and are less aware of ineffective communication with patients of lower socioeconomic status

(Epstein et al., 1985).

Class-based sociolinguistic differences in language have also been indicted as an impediment to effective patient-provider communication among lower class patients. In a study of patient-provider communication among an outpatient population, Waitzkin (1985) found patients from corporate and upper-middle class backgrounds received more physician time, more explanations, more multilevel explanations and less discrepant responses than did patients from lower-middle or working-class backgrounds. Physicians continually provided upper-class patients with more information despite the fact that there was no class difference in desire for information. The relative lack of effective communication may represent an important deficiency in the medical care of patients of lower socioeconomic status. As a consequence, lower-income patients appear to be more skeptical of their medical care (Hulka et al., 1975a), less satisfied with information provided by their physicians (Locker and Dunt, 1978; Hall, et al., 1988), more likely to feel patronized or ignored by their physicians (Cohen, 1996) and less satisfied overall (Hulka et al., 1971).

Studies have also established that patients with lower incomes typically have lower survival probabilities following treatment and diagnosis (Cella, Orav and Kornblith, 1991) and are less likely to report their health as excellent or very good (Statistics Canada, 1995). There is evidence to suggest that the highest income groups in Canada enjoy a considerable advantage in life expectancy compared to the lowest income groups and report a wider array of available health options and a greater sense of control over the decisions they make concerning their health (Health Canada, 1996b).

Despite these findings, studies of the relationship between socioeconomic status and

patient satisfaction have yielded less than consistent evidence (Hall and Dornan, 1990; Sitzia and Wood, 1997). In a meta-analysis of the literature, Hall and Dornan (1990) found patients with higher education, but low incomes were those who were least satisfied with their medical care, suggesting that this subset of the population may be resentful toward more privileged occupations such as physicians. Such attitudes may translate into greater dissatisfaction with care regardless of treatment and may contribute to the spuriousness of socioeconomic status as it relates to patient satisfaction in the literature.

Health Region

The Canadian national health insurance program provides publically financed comprehensive medical care for insured hospital and medical services available to all Canadians irrespective of their ability to pay. It is precisely because needed health care services are provided to all Canadians that it is widely assumed that a high level of equity has been achieved with respect to achieving a fairer distribution of health resources and facilities between regions across Canada. This presumption rests more upon assumptions of how health services operate in principle than upon how health care actually functions in practice. For example, disparities in funding continue to exist in per capita spending on health. Poorer regions have poorer differential access to health services, particularly to highly specialized services provided in tertiary-care urban hospitals (Wolfe, 1991).

Access is synonymous with the availability of health care resources in a particular area. This includes physical proximity to medical centers and providers, as well as waiting times for sophisticated medical procedures. The Canadian population is relatively small and is becoming increasingly clustered in larger urban centers. The relative vastness of the

Canadian landscape, coupled with a fee-for service system of remuneration for physicians have left some areas of the country with a relative surplus of health care providers while other areas experience shortages. Typically in Canada, these under-serviced areas are found in the remote northern areas and sparsely populated rural areas. The relatively smaller volume of health services available and sparse distribution of the resources in these areas often results in services which are underfunded and underutilized. As a result, general practitioners in rural areas often perform specialized tasks such as minor surgery and obstetrics which would typically be preformed by specialists in urban areas.

Health care facilities with larger resources and more diversified services should presumably have greater latitude to provide needed services in a more flexible manner to those admitted. Individuals in sparsely populated areas may have less diversified health care facilities and therefore may be more dissatisfied because of problems of access and availability to medical services. Furthermore, the utilization of needed or prescribed medical services may be discouraged by geographic accessibility. However, there is relatively little research to test these assumptions across health regions in the Canadian context.

Theoretical and Methodological Problems

Logically, conceptual and theoretical issues should take precedence to issues of measurement. Within the patient satisfaction literature, however, this has traditionally not occurred (Sitzia and Wood, 1997). It has been suggested that much of the satisfaction literature has been "data-driven" in that theory is often ignored when significant correlations among variables are found (Hall and Dornan, 1988a). The danger of data-driven research becomes problematic when data are "constructed" from poor methodological, conceptual and

theoretical instruments derived to measure patient satisfaction. In an effort to help clear up some of these problems, Hall and Dornan (1988a) make a distinction between direct and indirect approaches to satisfaction research. Direct research asks respondents directly about their satisfaction with care, whereas indirect approaches ask respondents to describe their care and evaluate its quality. Satisfaction ratings are subsequently inferred from responses to indirect measures. While these two approaches to the measurement of satisfaction seem interchangeable, there remains a conceptual problem with the indirect approach because it "blurs the distinction between satisfaction and its determinants by making the same items serve both purposes at once" [642] (Hall and Dornan, 1988a).

Despite the implicit methodological problems of this circular reasoning much of the satisfaction literature has failed to make consistent conceptual differentiations between explanatory and dependent variables. It is common to find the same item serving as an independent variable for one investigation, but as a dependent variable for another. As a consequence, much of the literature has been criticized for having a weak theoretical basis, which has resulted in a "lack of direction" in developing causal models of patient satisfaction (Hall and Dornan, 1988a).

Research derived from studies devoid of theory provide only a partial and sometimes misleading insight into understanding the correlates of patient satisfaction. Patient concerns with factors relating to their care need to be more directly considered when explaining differential ratings of satisfaction. For these reasons there is a need to develop a model of patient satisfaction which better accounts for a broader range of possible dimensions of satisfaction. A model of satisfaction which is developed from the prospective of the patient

should provide more reliable and valid information concerning how patients arrive at their ratings of satisfaction and the consequences of dissatisfaction in the context of optimal delivery of medical care services.

Despite the aforementioned problems in the literature, reliable correlates of satisfaction have been derived from various dimensions of the structure, process and outcomes of medical care. These variables include: the availability of medical services, patient-provider communication, the extent of patient involvement in their care and clinical outcomes.

Structural Factors

Availability of Medical Services

The availability of medical care includes the volume, distribution and type of existing medical services and equipment, the perceived availability of health services or providers which are not unduly restricted by time or distance and the convenience and ease of getting appointments (Penchansky and Thomas, 1981). The availability of health services has been established as an important predictor of patient satisfaction (Gray, 1980), continuity of care (DiMatteo, Prince and Taranta, 1979) and utilization of services (Thomas and Penchansky, 1984). However, in Canada problems persist in the availability of certain medical services, health care technologies and medical practitioners. Availability problems occur because some areas of the country have a relative surplus of services, health care providers and specialists, whereas other areas suffer from shortages. Surpluses exist where medical services and technology are utilized at less than optimum levels, whereas shortages occur when patients with legitimate health care needs are forced to travel long distances for

services or are put on waiting lists to receive needed care.

The potential availability of medical services is not limited to the distribution of health care services and providers. Availability can also be defined as the presence of enabling resources to which patients have access. Individuals who have more enabling resources (e.g., access to transportation, income to defer costs of pharmaceuticals, the ability to take time off work, etc) are more likely to utilize medical services. For example, the lack of public transportation to hospitals and other medical services in rural areas has been indicted as a significant barrier to the accessibility of medical care for Aboriginal Canadians (Macleod, 1996). Relatedly, Houston and Pasanen (1972) found patient willingness to return to a hospital was correlated with factors such as distance from the hospital and admission time. Patients who do not have readily available medical services may also enter the health care system later and thus may be less healthy than those who have relatively easier access to services. All other things considered equal, those who are unable to obtain quick and efficient medical services may receive less appropriate medical care.

The availability of health care and utilization of medical services have been established as significant predictors of differential mortality rates across socioeconomic groups (Feinstein, 1993). The deficit of health care providers in medically under-serviced areas may mean that those who live in these areas do not have equal access to sophisticated health care treatments or emergency medical services. Implicit in the Canadian context is the fact that some people have differential access to health services in Canada depending on where they live. For example, many urban areas have comparatively easy access to the latest medical services and thus residents will rarely have to leave their surrounding catchment area

for treatment. In contrast, many rural areas may have either no hospital services or one small hospital thereby compelling residents to travel to areas which possess more sophisticated medical resources. Briefer delays in obtaining services, decreased travel demands to obtain care, and lessened appointment difficulties have all been correlated with increased satisfaction (Gray, 1980; Fox and Storms, 1981), however findings are inconsistent with respect to the relative importance of accessibility when controlling for other factors (Segall and Burnett, 1980; Lochman, 1983).

Process Factors

Patient-Provider Communication

Effective communication conveys explanations and information concerning treatment, diagnosis, procedures, advice, opinions, as well as an affective dimension of care - all of which are critical to facilitating positive clinical outcomes and the patients' ability to cope with illness. Not surprisingly, communication is one of the most powerful predictors of satisfaction, independent of all other dimensions of care (Larson and Rootman, 1976; Bertakis, 1977; Comstock et al., 1982; Like and Zyzanski, 1987; Carr-Hill, 1992). Satisfactory patient-provider interactions depend on both verbal and nonverbal communication skills that meet the patients' socially defined norms and values (Buller and Buller, 1987), the affective quality of the health care provider's manner (Korsh et al., 1968), the provider's interpersonal communicative skills and the amount of information conveyed to the patient (Hall et al., 1988).

The physicians' ability to clarify, summarize and talk at a level which their patient is comfortable is related to higher ratings of satisfaction, whereas misunderstandings as the

result of poor communication often result in patients discontinuing or failing to adhere to physician recommendations (Comstock et al., 1982) and/or unwillingness to cooperate with their health care providers (Heszen-Klemens and Kapinska, 1984). For example, when drug regimens have not been communicated adequately to patients errors of commission, omission and schedule misconception are more likely to occur (Hulka et al., 1976). It is not surprising then that effective communication is associated with compliance to treatment regimens and physician recommendations (Hall et al., 1988), utilization of services (Larson and Rootman, 1976; Like and Zyzanski, 1987), patient comprehension (Wartman et al., 1983) and healthier clinical outcomes (Avis, et al., 1997).

Effective communication however may be compromised by differences in power, status and control that characterize the patient-provider dyad (Ben-Sira, 1980; Waitzkin, 1991). Patients limited understanding of medical diagnosis and treatment, coupled with anxiety and uncertainty, put them at a considerable status disadvantage when compared to their physicians. Patients may feel intimidated by the prestige and power of their physicians and thus may be reluctant to disclose information which seems trivial. As a result, patients often become anxious in the presence of physicians (Avis, et al., 1997), remain passive in their interactions with their health care providers (Greenfield, Kaplan and Ware, 1985), discuss few of their worries and concerns (Korsh et al., 1968; Hulka et al., 1975b), express reluctance to criticize their providers (Hall and Dornan, 1988a) and are often unprepared to elicit health-related information (Greenfield et al., 1985). Patients who have felt disappointed with the amount of information provided by their physician often blame themselves, citing reasons of not wanting to "butt in" or forgetfulness as reasons for poor

communication (Avis, et al., 1997), or not wanting "to waste the doctor's time" with irrelevant conditions (Calnan, 1988).

The practice of medicine is becoming highly specialized and increasingly technological. The rise in medical technology places increasing demands on physicians' time often to the detriment of communicative aspects of medical care. Illich (1975) argues that patients are frequently subjected to a wide range of tests and examinations that are rarely explained effectively and understandably. At a time when patients must often deal with increasingly specialized health care practitioners, widespread bureaucracy and imposing technology it is even more important that physicians or other health care workers provide patients with necessary information concerning diagnosis, prognosis and treatment options. However, the highly technical nature of modern medicine makes it difficult for patients to become fully informed.

In a survey of medical and surgical patients in Canadian hospitals, Charles et al., (1994) reported 41 percent of patients had not been told about daily hospital routines, 20 percent were not told about medication side effects and 20 percent were not given information about the use or need of testing procedures. Upon discharge from the hospital, over one-third (36 percent) of patients had not been told about monitoring symptoms of recurrence and 29 percent were not told about important limitations and precautions to take at home. A further 16 percent did not understand possible side effects of medications and 15 percent did not understand their test results. Not surprisingly, patients who indicated that their communication with their providers was unsatisfactory were more likely to have recurring health related problems.

While patients frequently disapprove of the lack of information imparted by their physicians, it not uncommon for many patients to adopt the role of passive recipient rather than actively seeking information for which they are concerned (Avis, 1994). Friedson (1970) suggests that potential problems always exist between patients and their providers. Even though patients and their health care providers share the goal of health, they may define the problem differently and thus have different interpretations of how to achieve healthy outcomes. Stimson (1974) found patients to evaluate their physician's advice against personal experiences (e.g., side effects and treatment efficacy), the experience of others within their social network and/or cultural definitions of illness before acting on the advice. Thus the interplay of effective dialogue in the patient-physician interaction includes not only clear communication of diagnosis and treatment from the physician, but also symptoms, history and feelings conveyed by the patient.

In a study of patient-provider communication among diabetics Hulka et al. (1975a) found physicians only communicated approximately two-thirds of the total information they wanted to convey to their patients. Similarly, Waitzkin (1984) found physicians to typically underestimate patient desire for information and underrate the clinical usefulness of information giving when compared to their patients. For example, in consultations that lasted at least twenty minutes, on average, only one minute was devoted by the physician to provide information to their patient. It has been suggested that limited communication serves the professional interests and needs of physicians. Limited communication may protect physicians from the possibility of errors of neglect and incompetence from being discovered in their work (McKinlay, 1976) and to preserve power in the patient-provider relationship

by maintaining patient uncertainty about illness etiology, efficacy of treatment, or specific future actions of the physicians themselves (Waitzkin, 1985). The lack of time spent on providing information is especially problematic considering that patient satisfaction with their physicians is positively correlated with both the prevalence of discussions concerning health education (Schauffler, Rodriguez and Milstein, 1996) and perceived disclosure of information (Linn, 1975; Comstock et al., 1982).

Involvement in Care

Patient involvement in the treatment process has been established as an important factor of quality medical care (Cleary and McNeil, 1988). Evidence suggests that patients who are oriented toward active involvement in their care and participate in the decisions that effect their treatment have better clinical outcomes than patients who remain relatively uninvolved in their treatment (Anderson and Zimmerman, 1993). Patients who are more involved in their medical care are also more likely to comply with treatment (Speedling and Rose, 1985; Carr-Hill, 1992), to return for care (Zastowny, Roghmann and Hengst, 1983), to be more knowledgeable about their diagnosis and treatment (Greenfield et al., 1985), to have healthier outcomes (Speedling and Rose, 1985; Cleary and McNeil, 1988), have better communication with their providers (Hall et al., 1988) and to be more satisfied overall with their care (DiMatteo et al., 1980).

In terms of role expectations, however, patients have traditionally been assigned a relatively powerless position concerning their involvement in their medical care (Brody, 1980; Greene et al., 1980). Historically, authority and responsibility for medical care decisions have been granted to physicians and specialists because health care was viewed as

so complicated that it required judgements by experts on behalf of their patients (Reiser, 1992). As a consequence, many patients have developed expectations that they should be subordinate and passive in their interactions and communications with their physicians. Studies have shown that many patients do not expect physicians to give a detailed account of their diagnosis, to be asked their opinion in setting up treatment regimens, to answer all of their questions or to be told about what their medication does (Greene et al., 1980).

The extent to which patients perceive themselves as powerless will influence the way they frame their expectations for their involvement in their medical care. In situations where patients perceive themselves to be at a decisive status and power disadvantage, they may prefer to remain passive in relation to their health care providers. Williams (1994) contends that ". . . if the Parsonian sick role and the passivity it necessitates holds true then the user may deem the very idea and legitimacy of an evaluation unfounded" [p.513]. Evaluations of satisfaction with care may, therefore, be solely a reflection of the role patients adopt irrespective of the actual quality of care received.

However, due to the nature of illness and individual differences among patients, not all patients expect to be equally submissive (Lochman, 1983). Evidence suggests that patients are becoming progressively less willing to tolerate a subordinate role (Waitzkin, 1985) and are willing to become more involved in their medical care when they perceive themselves to have control over the decisions regarding their treatment (Carr-Hill, 1992). In a study of clinic patients with ulcer disease, patients who were coached to ask questions and negotiate medical decisions with their physicians reported fewer physical limitations, increased functional ability, increased interactions with their physician and an increased

preference for active involvement in medical decision making (Greenfield et al., 1985). Relatedly, Roter (1984) found that patients who met with a health educator to discuss questions concerning diagnosis, etiology, prognosis, prevention, medications and therapeutic recommendations were more likely to initiate questioning and become more actively involved in their medical dialogue.

Deeks and Byatt (2000) examined self-administration of medications between hospitalized patients and their subsequent satisfaction with their care. Results indicated that those who administered their own medications were more likely to report their overall care as excellent and were more satisfied with the discharge process than patients who had not. The majority of patients who had self-administered their medicines were also receptive to the idea of doing so again in the future, although patients who chose to self-administer their medications again were typically younger than those who chose not to. Younger patients, it was thought, were more likely to value increased independence and take to the concept of self-administration of medications more readily than older patients. Relatedly, Owens and Batchelor (1996) found elderly patients of a District Nursing Service in the United Kingdom to be reluctant to become more involved in their medical care, in part because of fear that services would eventually be withdrawn.

Overall, patient-provider relationships are more likely to be satisfying and effective when patients are encouraged to take an active role in managing their health problems (Speedling and Rose, 1985). Patients who have been helped to read their medical record and coached to ask questions and negotiate medical decisions tend to interact more freely with their physicians, have fewer functional limitations as the result of their illnesses and are more

actively involved in medical decision making (Greenfield et al., 1985). In addition, physician directiveness and emotional attitude toward their patients, coupled with patients' activity (e.g., asking questions) and involvement in health care decisions appears to be positively related to compliance behavior (Hulka et al., 1976; Heszen-Klemens and Kapinska, 1984). The association between increased involvement, compliance behavior and improved functional mobility suggests that interpersonal aspects of care not only influence patient satisfaction but also clinical outcomes.

Outcome factors

Clinical outcomes

Satisfaction will be influenced by clinical outcomes to the extent that patients base their assessments of their care on their physical and mental health following treatment (Kane, Maciejewski and Finch, 1997). Clinical outcomes of care can be defined as the result of medical services provided when a patient seeks medical care as it relates to the patient's health status. The outcome of medical care can include both positive or negative changes in health status or the maintenance of health status at a level prior to receiving health services, including specific clinical outcomes such as death, limitations in activity, symptoms, physiologic problems and implicit judgements of health status.

Despite the intuitive logic of clinical outcomes having a direct effect on patient satisfaction, the vast majority of patient satisfaction studies have not adequately addressed patient perceptions of changes in their health status resulting from their medical care (Hall and Dornan, 1988b; Cleary and McNeil, 1988). Instead, it has also been argued that many of the satisfaction measures used in the literature are biased toward issues that concern health

care providers rather than their patients (Calnan, 1988; Bond and Thomas, 1992; Carr-Hill, 1992; Wensing, Grol and Smits, 1994). Traditionally clinical outcome measures have been defined by health professionals and these may differ from those of importance to patients (Bond and Thomas, 1992). This view has been supported by a meta-analysis of the literature which concluded that patients are often asked to assess the availability and informativeness of treatment, but are rarely asked to rate the effectiveness of their care (Wensing et al., 1994).

The lack of research into the relationship between clinical outcome and satisfaction has been in part due to the avoidance of questions regarding patient perceptions of clinical outcomes (Larson and Rootman, 1976), the use of provider generated measures of clinical outcomes (Bond and Thomas, 1992) and/or the substitution of health status in lieu of clinical outcomes in any subsequent analysis (Pascoe, 1983). Studies that have simply used health status or severity of illness as a measure of outcome have generally found little or no evidence to support any relationship with satisfaction (see DiMatteo and Hays, 1980; Fox and Storms, 1981; Zastowny et al., 1983).

In a study of the quality of process versus outcome determinants of medical care McAuliffe (1979) found assessments of clinical outcomes performed by independent physicians following treatment were often uncorrelated. When coupled with the propensity for incomplete assessments and measurement error the validity and reliability of clinical outcome measures found in much of the patient satisfaction research can be questioned (Wensing et al., 1994). McAuliffe (1979) argues that the validity of clinically defined medical outcomes of care can be further criticized because physicians often base their conclusions of clinical outcomes on what is done (e.g., a specific type of surgical procedure)

rather than how well. In actuality, what physicians deem to have occurred during the course of medical care may be quite different from what the patient perceived to have happened.

Of those studies that have adequately accounted for clinical outcomes, not surprisingly satisfaction is positively correlated with perceived improvements in health (e.g., Fleming, 1981; Carmel, 1985). Kroenke et al. (1999) found patient satisfaction to be associated with total symptom severity at discharge and degree of symptomatic improvement that occurred during hospitalization. Other studies have determined that satisfaction with care is predicted better by patients' self-rated health status six months following surgery rather than the extent of improvement in health status insofar as absolute clinical outcomes appear to be more strongly related to satisfaction than relative outcomes (Kane, Maciejewski and Finch, 1997). In fact, several studies have identified improvements in health following medical care as the most significant predictor of patient satisfaction (Jatulis, Bundek and Legorreta, 1997; Kroenke, 1999) and some have gone as far as to suggest that when patients perceive a positive clinical outcome they tend to attach little importance to any deficiencies in the provision of services (Carmel, 1985).

However, not all studies have found clinical outcomes to adequately predict patient satisfaction. Stewart and Wanklin (1978) found a tendency for subjective measures of favorable clinical outcomes to be related to patient satisfaction, however, none were found to be statistically significant. Woolley et al., (1978) found a strong positive relationship between patient satisfaction and functional outcomes, however, almost two-thirds of patients who failed to regain their usual functional status after treatment also expressed satisfaction with the outcome of their care. Patients who did not regain their usual functional status were

thought to "explain away" their clinical outcomes through rationalizations such as "the physicians did their best" and thus remained satisfied with their care irrespective of unanticipated changes in health status. The spuriousness of findings coupled with methodological weaknesses in the measurement of clinical outcomes as they relate to patient satisfaction continue to contribute to the limited understanding of the relationship between clinical outcomes and subsequent ratings of satisfaction.

Summary

The measurement of satisfaction has traditionally preceded any theoretical considerations. As a consquence, it is difficult to synthesize empirical findings or explain discrepant results. The literature can, however, be criticized for its failure to look at broader issues concerning the state of health care in general. The studies reviewed indicate that certain factors correlate with patient satisfaction following specific and identifiable interactions with health care services and providers. Various antecedent perception and attitude variables have been proposed as explanatory variables, however, it is still not clear what role structure, process and outcome determinants play in the formulation of ratings of satisfaction with their medical care, nor whether patients are able to adequately differentiate between these determinants. The validity of patient satisfaction will continue to fall under suspicion as long as the mechanisms surrounding expressions of satisfaction are not clearly understood.

Factors which have not been found to have a direct relationship on satisfaction include patient expectations and ratings of the technical quality of care, while sociodemographic correlates with satisfaction remain spurious. Despite problems in the

literature, certain variables have been established as fairly strong predictors of satisfaction. Patient satisfaction has been found to be positively associated with perceived availability of services, communication with health care providers, involvement in care and clinical outcomes. Although these variables have been established as reliable predictors of patient satisfaction, there remains no consensus about which of these dimensions of care is most important in determining patient satisfaction.

Hypotheses

Seven hypotheses were formulated to guide the present study based on the dimensions of satisfaction detailed in the literature review. Figure one presents a model of patient satisfaction suggested by the following hypotheses. The proposed model illustrates the hypothesized relationships between patient sociodemographic variables and the structure, process and outcomes of care.

Hypothesis One: Sociodemographic Characteristics

(i) Patient satisfaction with their medical care is not directly affected by patient sociodemographic characteristics. Six sociodemographic variables are to be included in the analysis: health status, age, gender (coded 0 = male, 1 = female), education, income and health region (coded 0 = sparsely populated health regions, 1 = densely populated health regions)[1].

(ii) An analysis of sociodemographic variables with respect to their effects on the

[1] Densely populated health regions were defined as those regional health authorities which included Edmonton and Calgary and their surrounding catchment areas (the Capital Health Region and the Calgary Regional Health Authority).

structure, process and outcomes of care will be examined to evaluate the causal connections between these variables. While it has been hypothesized that sociodemographic variables will not affect patient satisfaction directly, it is possible that these variables will operate indirectly on satisfaction through the structure, process and clinical outcomes of care.

Hypothesis Two: Availability of Care

(i) Respondents who perceive their health care as readily available in their community will be more satisfied with the medical care they have received in the last twelve months.

(ii) Respondents who perceive their health care as readily available will be less likely to find that providing home care responsibilities are an inconvenience/disruption to their daily living.

(iii) Respondents who perceive their health care as readily available will have better clinical outcomes than patients who do not perceive their health care as readily available.

Hypothesis Three: Home Care

Respondents who find that providing home care responsibilities are a disruption to their daily living (coded 1 = a major inconvenience/disruption, 2 = a minor inconvenience/disruption, 3 = not an inconvenience and 4 = no home care services provided) will be less satisfied with the medical care they have personally received in the previous twelve months.

Hypothesis Four: Communication

(i) Respondents who had more total communication with their health care providers will be more satisfied with the medical care they received in the last twelve months than respondents who communicated less often with their health care providers.

(ii) Respondents who had more total communication with their health care providers will be more involved in their medical care than respondents who had less communication with their health care providers.

(iii) Respondents who had more total communication with their health care providers will have better clinical outcomes than patients with less total communication with their providers.

Hypothesis Five: Involvement

(i) Respondents who are more involved in their medical care will be more satisfied with the care they received in the last twelve months than respondents who remained uninvolved in their medical care.

(ii) Respondents who are more involved in their medical care will have better clinical outcomes than patients who remain uninvolved in their medical care.

Hypothesis Six: Clinical Outcomes

The better the respondent's clinical outcomes the higher their satisfaction will be with the medical care they received in the previous twelve months.

Hypothesis Seven: Direct versus Indirect Questions

An analysis of the effects of the directness of questions will be used to test whether question wording affects the causal connections between predictor variables and ratings of patient satisfaction. The patient satisfaction index[2] was broken down into two components: direct questions (questions 12, 15b, 16d, 17c, 18d from the patient satisfaction index) and

[2] See Chapter III for patient satisfaction index under the heading measurement and index construction.

indirect questions (questions 25a and 26 from the patient satisfaction index)[1].

Chapter Summary

The present chapter focused on outlining the methodological and conceptual problems found in the much of the patient satisfaction literature. In addition to identifying discrepancies in the research, established causal connections of patient satisfaction were also discussed. Analysis of both the problems and proposed solutions to the methodological and conceptual problems found in the patient satisfaction research led to the identification of important gaps in the literature. For example, no taxonomy of the relative importance of predictor variables currently exists and much of the literature has been derived from poorly articulated theory. Hypotheses were generated in response to perceived inadequacies in the literature and to substantiate established theory. In the following chapters, an in-depth analysis of the causal connections between patient sociodemographic characteristics and the structure, process and clinical outcomes of care will bridge the gaps identified in the literature.

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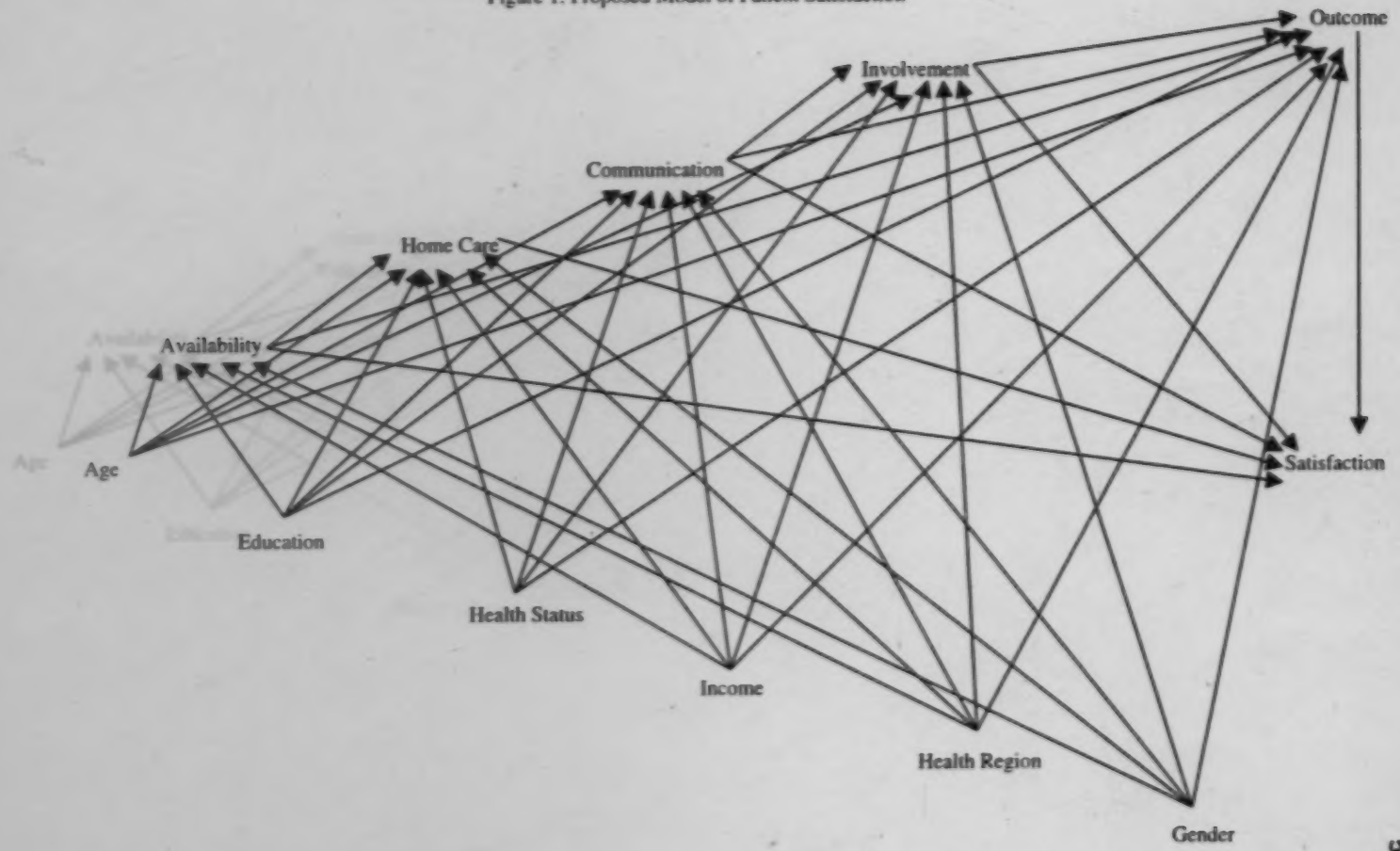
[1] Direct questions are defined as those questions that ask respondents directly about their satisfaction with care. Indirect questions are defined as those questions that ask respondents to describe their care and evaluate its quality. Ratings of satisfaction are subsequently inferred from responses to indirect questions.

Figure 1: Proposed Model of Patient Satisfaction



Chapter III: Methodology

Overview

This chapter begins with a brief examination of the characteristics of the 2000 Alberta Health Survey including the questions chosen for study and the characteristics of the respondents to the survey. Following an outline of the research design, issues of measurement are addressed in relation to the hypotheses generated in the previous chapter. Measurement issues to be examined include index construction, how indicators of the independent and dependent variables were derived, recoding and statistical techniques.

Research Design and Sample Characteristics

Patient satisfaction data were drawn from the 2000 Alberta Health Survey, an annual survey that examines public perceptions of health and the health system in Alberta. The Alberta Health Survey objectives include the assessment of self-reported health status and health needs, knowledge of health services, quality of care, information received from health care providers, involvement in decision-making, availability and accessibility of health care services, failure to receive needed care, satisfaction with the health care system and sociodemographic variables such as age, gender, income, education and health region, among other variables.

Beginning in 1996, the Alberta Health Survey has been conducted by the Population Research Laboratory (PRL) at the University of Alberta, under contract from Alberta Health and Wellness. The 2000 Alberta Health Survey was administered through the PRL's computer-assisted telephone interviewing (CATI) system between March 30th and May 10th,

2000. A stratified random sample of computer-generated telephone numbers was used to contact households in each of the seventeen health regions in the province. Due to under-sampling in the Capital and Calgary health regions and over-sampling of the remaining fifteen health regions, the final sample was weighted to reflect the actual proportion of the population living in these areas. The sample consisted of 4000 respondents (80 percent response rate), 18 years of age or older. A quota system was used to ensure equal numbers of female (50.2%) and male (49.8%) respondents were contacted. The typical respondent had an annual family income between $45,000 and $49,999, was between 25 and 44 years of age and had some post-secondary education. More than sixty-three percent of respondents rated their health as very good to excellent.

Aday and Anderson (1974) maintain that measures of patient satisfaction are best evaluated in the context of a specific, recent and identifiable episode of medical care. Using this as a guideline, only respondents who met all of the following criteria in the twelve months prior to the commencement of the 2000 Alberta Health Survey were selected for the present study: respondents must have personally received medical care services in Alberta, had been hospitalized, had at least one encounter with their physician and had an identifiable clinical outcome as a result of their medical care. Of the 4000 individuals in the original sample, 426 respondents met these criteria. Despite the reduction in sample size, the research design necessitated that responses were to be based on actual experiences of care and as a result it was preferable to identify potential respondents who evidenced use of medical services.

Of the 426 remaining respondents chosen for study, 53.7 percent were female and

46.3 percent were male. Respondents had on average some post-secondary education, an annual family income between $50,000 and $54,999, were between 25 and 44 years of age and 55.1 percent rated their health status as either very good or excellent. Overall, the final sample slightly over represented women and the more affluent, however respondents had similar educational attainment as the original sample. Due to the selection criteria it is not surprising that respondents were less likely to rate their health status as very good or excellent. Analysis of the age variable revealed that the final sample of respondents may also have been slightly older. However, in the 2000 Alberta Health Survey, the original coding of the age variable allowed for only five categories of age (18-24, 25-44, 45-64, 65-74 and 75 years or older). Due to the asymmetrical coding of the original variable calculable age comparisons between the original sample and the respondents selected for analysis were rendered impossible.

Measurement and Index Construction

Rather than working with responses to individual questions, a "satisfaction" index (alpha = .81) was created as the dependent measure to assess respondent satisfaction with medical care in Alberta. The index was designed to capture the multifaceted nature of satisfaction and increase the validity and reliability of measurement. The index was constructed from responses to seven items requiring assessment of community medical services, overall quality of care received in the previous twelve months, quality of care received from personal physicians, quality of care received from hospital-related medical services, quality of care received by close relations, satisfaction with the medical care received and satisfaction with the Alberta health care system in general (see table 1).

Table 1
Patient Satisfaction Index
(N=426)

Items in the Satisfaction Index*	Mean	SD
Q.12: Overall, how would you rate the quality of health care services that are available in your community?	3.43	1.25
Q.15b: Overall, how would you rate the quality of care you personally have received in the past 12 months?	3.93	1.11
Q.16d: How would you rate the quality of care you received from this physician on this occasion?[4]	4.26	1.05
Q.17c: How would you rate the quality of care you most recently received at the hospital?	3.91	1.28
Q.18d: How would you rate the quality of care he/she [parent, child, spouse, roommate] received at the hospital?[5]	3.85	1.28
Q.25a: Thinking now about the health care system in Alberta, overall, how would you rate it?	3.30	1.29
Q.26: Overall, how satisfied are you with the health system in Alberta?	3.54	1.18
Satisfaction Index (Alpha = 0.81)	3.73	0.83

* Satisfaction ratings range from 1 to 5, and run negative to positive

The patient satisfaction index assesses satisfaction with multiple health care indicators. Although diverse in scope, the items in the satisfaction index are related in systematic ways. An analysis of the inter-correlations between these variables revealed that they were highly interrelated, with coefficients ranging from .14 to .63 ($p<.01$). Means and standard deviations can be obtained from Table 1. The total satisfaction "score" was obtained by first expanding six items: questions 12, 15b, 16d, 17c, 18d, 25a from a four to

[4] Question 16d was proceeded by the qualifying question: In the past 12 months, have you personally received health services from a physician in Alberta, either a family doctor or medical specialist?

[5] Question 18d was proceeded by the qualifying question: In the past 12 months, did another person living in your household, like a spouse, child, parent, or roommate receive health services at a hospital in Alberta?

a five-point Likert-type scale. Within each of these six items categories 1 and 2 remained the same when they were recoded (recoded as 1 = 1, 2 = 2), whereas categories 3 and 4 were changed to correspond with categories 4 and 5 when recoded (recoded as 3 = 4, 4 = 5). The seventh item in the patient satisfaction index (question 26) was already coded on a five-point scale, thus it did not necessitate recoding. The seventh item was not recoded to a four-point scale because it was thought that preventing the loss of information (which necessarily occurs when variables with a larger range of categories are collapsed into a smaller range of categories) was more important than the loss of index variability which accompanied the recoding of the four response categories into five response categories in the other six items. Scores for all of the items were subsequently reversed so that higher values indicated greater satisfaction and lower values indicated lower satisfaction. The satisfaction index was, therefore, derived from the summated score of the seven items requiring assessment divided by the total number of items in the index to produce a mean score ranging from 1 (very dissatisfied) to 5 (very satisfied).

Eighteen items, reflecting seven dimensions hypothesized to predict satisfaction were selected as estimators of satisfaction. These dimensions included: clinical outcomes of care (one item), involvement in care (one item), delivery of medical services (one item), availability of medical services (two items), health status (three items), communication with providers (four items) and sociodemographic characteristics of patients (five items; age, gender, education, income and health region). Three indexes (availability of medical services, communication with providers and health status) were constructed to tap the multi-dimensionality of these variables and to provide more consistent, reliable and valid predictors

of satisfaction. All item scores were reversed, so that a high score on any of the indexes corresponded to a high level of satisfaction and a low score on any of the indexes corresponded to a low level of satisfaction. Composite scores for the indexes were calculated as the sum of a respondent's scores for each item in the index divided by the total number of items in the index. Thus, the composite score of each index reflected the average of the respondent's answers to all of the index items.

The first index was constructed to assess patients' beliefs about the perceived availability of health services in their community (alpha = .74). To assess how respondents perceived the availability of their medical care they were asked to rate the following two statements: (1) "Overall, how would you rate the availability of health care services in your community?" and (2) "How easy or difficult is it for you to get the health care services you need when you need them?" A high value (4) indicated a high level of perceived availability of medical services and a low value (1) indicated a low level of perceived availability (see Appendix A).

The second index was constructed to assess patients' communication with their providers (alpha = .61). The index consisted of four questions: (1) "In general, how would you rate your knowledge of the health services that are available to you?" (2) "Do you think you need more information about the health services that are available to you?" (3) "When you receive health services, how much information do you usually get from the health care provider about the services offered to you?" and (4) "Do you believe you have enough information to make informed decisions about the health care services you need?" The second and the fourth questions were expanded from a dichotomous (yes = 1, no = 2)

variable into a recoded variable with a four-point scale (yes = 1, no = 4). A high value (4) indicated a high level of communication with health providers, whereas a low value (1) indicated a low level of communication (see Appendix B).

The final index was developed to assess patients' self-rated health status (alpha = .62). The index consisted of three questions; (1) "In general, compared with other people [how] would you say your health is?" (2) "How would you describe your own level of need for health services during the past year?" and (3) "Do you have a chronic health problem which requires regular health services?" The items in the second question were both reversed and expanded from a three (originally coded as 1 = low, 2 = moderate, 3 = high) to a five-point scale (recoded as 5 = low, 3 = moderate, 1 = high). The items in the third question were expanded from a dichotomous variable (originally coded as yes = 1, no = 2) to a five-point scale (recoded as yes = 1, no = 5). A low score (1) reflected poor health status, whereas a high score (5) reflected excellent health status (see Appendix C).

The reliability levels of the three indexes developed to assess satisfaction are somewhat low compared to generally accepted alpha levels. However, the dichotomous format of some of the variables artificially restricts the variability of possible responses thereby restricting the maximum correlation coefficient obtainable. Analysis of items in the indexes does however suggest that there is a strong substantive and theoretical relationship between these items and thus the indexes were used in the subsequent analysis.

Chapter Summary

The current chapter provided a detailed description of the 2000 Alberta Health Survey from which the data for the present study were obtained. Descriptions of how the dependent

and independent variables were derived and how indexes were calculated were outlined. The following chapters will report the bivariate and multivariate findings derived from the methods outlined in this chapter and place them within a testable theoretical framework of patient satisfaction.

Chapter IV: Findings

Overview

The present chapter begins with a brief examination of the descriptive statistics concerning respondents' satisfaction with their care, followed by bivariate and multivariate statistical analysis of the variables outlined for study. A statistical examination of each of the seven hypotheses concludes the chapter.

Design and Statistical Analysis

The average patient satisfaction rating as measured by the satisfaction index was 3.73 out of 5. One respondent obtained the lowest possible satisfaction score of 1, whereas 20 respondents obtained the highest possible satisfaction score of 5. Despite the somewhat high overall rating of satisfaction, analysis of the scores obtained from the satisfaction index indicated a wide distribution of ratings. A wider distribution of scores implies that patients were able to differentiate the various dimensions of their care and rate each aspect of their care independently.

Analysis was conducted in two phases. First, the bivariate relationship between patient satisfaction and the predictor variables were examined. The second analysis controlled for the relative effects of each of the predictor variables using multiple regression. As Table 2 indicates, the eleven variables in the regression analysis predicted 58.6% of the variance in patient satisfaction. Standardized regression coefficients for both the bivariate and multivariate regressions are also reported in Table 2, whereas the unstandardized regression coefficients for the multivariate regression are presented in Figure 2. The

standardized regression coefficients indicate the relative importance of each independent variable as a predictor controlling for the effects of the other variables entered into the analysis. Examination of these coefficients revealed that the perceived availability of medical services in the respondents community was the largest factor in explaining patient satisfaction, followed by clinical outcomes, communication with providers and involvement in care. The provision of home care was also significantly related to patient satisfaction, as was respondent education. Intercorrelations among the predictor variables are reported in Table 3.

Table 2
Patient Satisfaction Regression Coefficients

Independent Variables	Standardized Regression Coefficients	
	Bivariate Regression	Multivariate Regression
Clinical Outcome	.569**	.343**
Availability	.632**	.410**
Communication	.353**	.142**
Involvement	.169**	.130**
Home Care	.192**	.082*
Education	.062	-.092*
Gender	.066	.005
Age	.018	.059
Health Region	-.054	-.019
Income	.050	-.026
Health Status	.172**	-.025
		R squared = .586** (N=280)

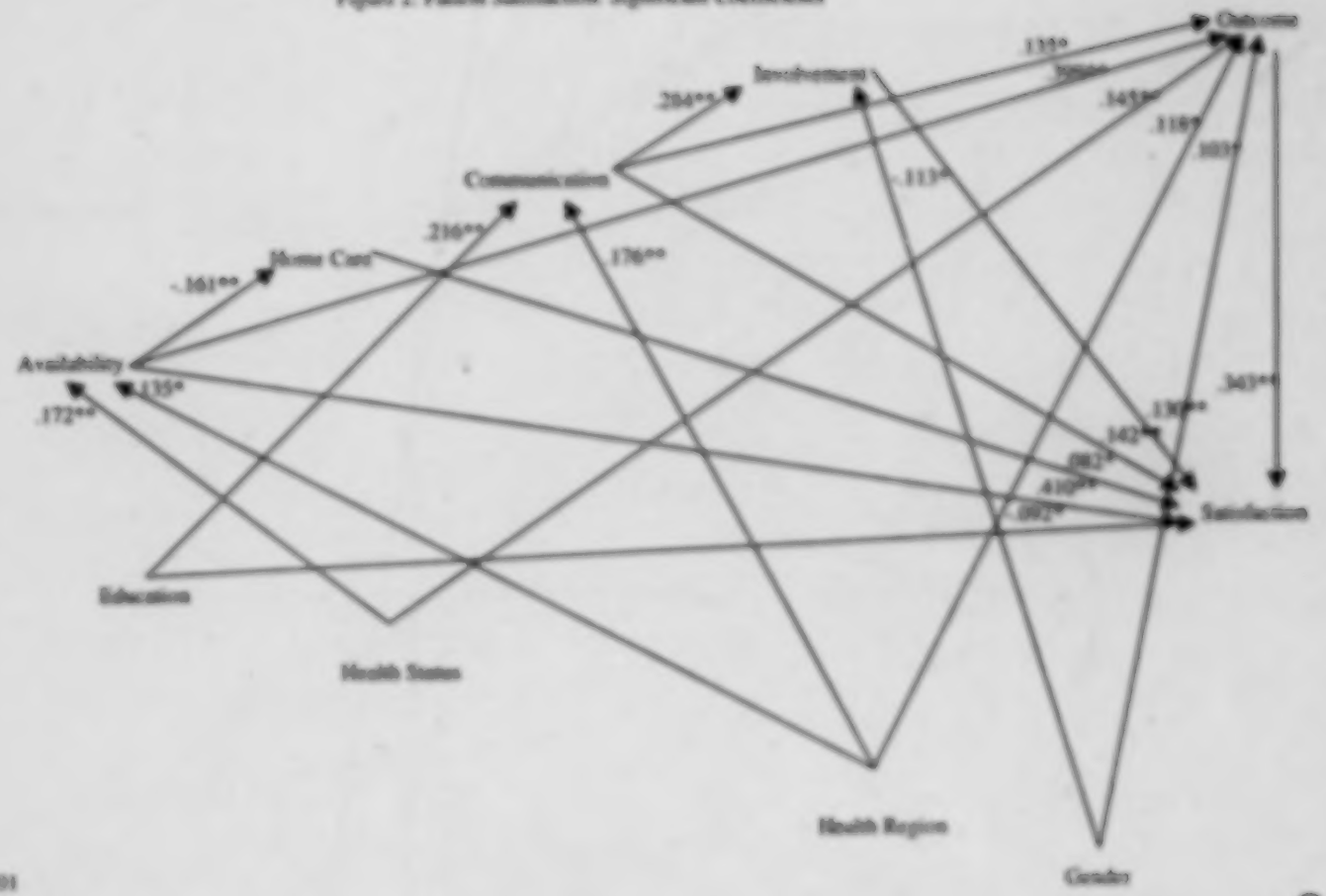
*p<.05, **p<.01

Table 3
Intercorrelations of Dimensions of Satisfaction

	1	2	3	4	5	6	7	8	9	10	11	12
1. Satisfaction	-	.569** (N=417)	.632** (N=424)	.353** (N=411)	.169** (N=421)	.192** (N=422)	.172** (N=422)	.062 (N=420)	-.054 (N=425)	.066 (N=426)	.050 (N=307)	.018 (N=426)
2. Outcome		-	.436** (N=416)	.283** (N=402)	.045 (N=413)	.071 (N=413)	.261** (N=415)	-.050 (N=417)	.050 (N=417)	.072 (N=417)	.105** (N=298)	.076 (N=417)
3. Availability			-	.288** (N=410)	.046 (N=419)	.195** (N=420)	.222** (N=420)	.051 (N=424)	-.053 (N=423)	-.039 (N=424)	.046 (N=306)	.070 (N=424)
4. Communication				-	.346** (N=407)	-.018 (N=407)	.052 (N=407)	.040 (N=411)	.166** (N=411)	.098* (N=411)	.148* (N=297)	-.068* (N=411)
5. Involvement					-	-.091 (N=418)	-.074 (N=418)	.013 (N=421)	.132** (N=421)	-.014 (N=421)	.097 (N=303)	-.131** (N=421)
6. Home Care						-	.188** (N=418)	-.075 (N=422)	-.106* (N=422)	-.037 (N=422)	.082 (N=305)	.108* (N=422)
7. Health Status							-	-.207** (N=422)	.006 (N=422)	.034 (N=422)	.177** (N=304)	.060 (N=422)
8. Age								-	.023 (N=425)	.025 (N=426)	-.144** (N=307)	.081 (N=426)
9. Education									-	-.314** (N=425)	.301** (N=307)	-.804 (N=426)
10. Urban/Rural										-	-.209* (N=307)	-.045 (N=425)
11. Income											-	.023 (N=307)
12. Gender												-

*p<.05, **p<.01

Figure 2: Patient Satisfaction: Significant Coefficients



* p<.05, **p<.01

Results

Hypothesis One: Sociodemographic Characteristics

(i) Hypothesis One pertaining to the absence of significant effects of sociodemographic variables and patient satisfaction was largely confirmed. Health Status (b=-.041, p=.551), age (b=.391, p=.147), health region (b=-.219, p=.675), income (b=-.018, p=.559) and gender (b=.060, p=.897) had no direct effect on patient satisfaction. However, respondent education was significantly related to patient satisfaction. Findings indicated that as respondents level of education increased their satisfaction with their care decreased (b=-.294, p<.05).

(ii) An analysis of sociodemographic characteristics and their effects on the structure, process and outcomes of care was conducted to examine the causal connections between these variables. Results indicated that positive clinical outcomes were significantly related to respondents' health status (b=.034, p<.01), health region (b=.193, p<.05) and gender (b=.166, p<.05). That is, respondents who were male, lived in sparsely populated health regions and had better self-rated health were more likely to have positive clinical outcomes. However, no significant relationships were found between clinical outcomes and respondents' age, education or income.

Further analysis indicated that communication with providers was significantly related to education (b=.314, p<.01), but in the opposite direction found with satisfaction. That is, patients with higher education were more likely to communicate with their providers, despite their tendency for lower overall rates of satisfaction. Similarly, respondents from sparsely populated health regions tended to communicate more with their providers than did

those from densely populated health regions (b=.956, p<.01). This despite the fact that respondents from sparsely populated areas rated the availability of health services in their community much lower than did respondents from densely populated areas (b=-.653, p<.05).

Finally, significant and positive relationships were found between gender and involvement and between health status and the perceived availability of medical services in the respondents' community. That is, women were found to be significantly more involved in their medical care than were men (b=-.202, p<.05) and as the availability of medical services increased so did the likelihood that respondents rated their health status positively (b=.119, p<.01).

Hypothesis Two: Availability

(i) Hypothesis Two predicted a positive relationship between patients' evaluations of the availability of medical care in their community and their subsequent satisfaction with the medical care they received in the previous twelve months. This hypothesis was confirmed. Results indicated that as the perceived availability of medical services in the respondents' community increased so did their satisfaction with their care (b=1.00, p<.01).

(ii) It was also predicted that respondents who perceived their health care as readily available would be less likely to find providing home care responsibilities an inconvenience/disruption to their daily living. This hypothesis was confirmed. As the perceived availability of respondents' health care services in their community increased, the less of an inconvenience/disruption occurred as a result of providing home care responsibilities (b=.071, p<.01).

(iii) Respondents who perceived their health care as readily available were also

predicted to have better clinical outcomes than patients who did not perceive their health care as readily available. As expected, as the perceived availability of respondents' health care services in their community increased the likelihood that respondents had better clinical outcomes also increased (b=.135, p<.01).

Hypothesis Three: Home Care

Hypothesis Three predicted that respondents who felt that providing home care responsibilities were a major disruption in their lives would be significantly less satisfied with their medical care. This hypothesis was confirmed. Respondents who provided home care services and felt that these responsibilities were a major inconvenience/disruption to their daily living were much less likely to be satisfied with their medical care (b=-.454, p<.05).

Hypothesis Four: Communication

(i) Hypothesis Four predicted a positive relationship between patients' assessments of their communication with their providers and satisfaction with their medical care. This hypothesis was confirmed. As the total communication between the respondent and their provider increased so did their satisfaction with their care (b =.309, p<.01).

(ii) It was also predicted that respondents who had better communication with their health care providers would be more involved in their medical care. Findings confirmed this hypothesis. As the total communication between the respondent and their providers increased so did their involvement in their care (b=.095, p<.01).

(iii) Respondents who had more total communication with their health care providers were also predicted to have better clinical outcomes than respondents who did not

communicate with their health care providers. This hypothesis was confirmed. Increases in total communication were found to be positively associated with better clinical outcomes (b=.309, p<.01).

Hypothesis Five: Involvement

(i) Hypothesis Five predicted a positive relationship between patients' assessments of their level of involvement in their treatment and satisfaction with their medical care. This hypothesis was confirmed. Results indicated that the more involved respondents were in their medical care the more satisfied they were with their care (b=.846, p<.01).

(ii) Respondents who were more involved in their medical care were predicted to have better clinical outcomes than patients who remained relatively uninvolved in their medical care. This hypothesis, however, was not substantiated. Results indicated that the extent of the respondents involvement in their care had no effect on their clinical outcomes (b=.049, p=.324).

Hypothesis Six: Clinical Outcomes

Hypothesis Six predicted a positive relationship between respondents' assessments of their clinical outcomes and satisfaction with their care. This hypothesis was confirmed. Positive assessments of clinical outcomes were significantly related to increases in patient satisfaction with their care (b=2.473, p<.01).

Hypothesis Seven: Direct versus Indirect Questions

An analysis of direct versus indirect questions was examined to test whether question type modified the relationship between the relative effects of the structure, process and outcomes of care on patient satisfaction. As Table 4 indicates, the type of question used as

the dependent measure of satisfaction (direct versus indirect) altered the relative importance of the various dimensions of the structure, process and outcomes of care had on subsequent ratings of satisfaction. It is apparent that variables that are common to specific and identifiable medical encounters (e.g., clinical outcomes and communication with providers) are better predictors of satisfaction which utilize direct questions as opposed to indirect questions. Similarly variables that have less to do with specific medical encounters (e.g., effects of providing home care services) are better predictors of satisfaction when satisfaction is measured using indirect and global questions.

Table 4
Direct versus Indirect Measures of Satisfaction

Independent Variables	Standardized Regression Coefficients	
	Direct Measurement	Indirect Measurement
Clinical Outcome	.384**	.185**
Availability	.306**	.493**
Communication	.184**	.030
Involvement	.117*	.119*
Home Care	.043	.131**
Education	-.076	-.098
Gender	-.026	.060
Age	.097*	-.023
Health Region	.023	-.089
Income	-.015	-.038
Health Status	-.055	-.035
	R squared = .525** (N=280)	R squared = .493** (N=280)

*p<.05, **p<.01

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Chapter Summary

The current chapter described the results which were obtained using descriptive, bivariate and multivariate regression techniques. A taxonomy of the relative importance of the structure, process and clinical outcomes of care was derived from the analysis of these statistics. All of the proposed hypotheses were verified with the exception of the finding that patient involvement in their medical care had no effect on clinical outcomes. Implications of these findings are discussed in the following chapter.

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Chapter V: Discussion

Strong support was found for a multidimensional conceptualization of patient satisfaction. Findings suggest that determinants of patient satisfaction do not exist in isolation from one another and that patients have a complex set of important criteria which cannot be characterized in simple expressions of satisfaction. Satisfaction was found to be positively associated with respondents' involvement with care, communication with health care providers, the perceived availability of services, clinical outcomes of care, provision of home care services and respondents' education. The factors which did not have a direct relationship on satisfaction include the respondents' health status, age, gender, income and place of residence (sparsely/densely populated areas).

Patients should differ in their orientations toward health care services, insofar as they should have different expectations of their health care providers and medical services and the role that they perceive they will have in their care. Theoretically, socially patterned responses to illness and/or knowledge about illness etiology and medical services should cause different subgroups of patients to react differently in their medical encounters and therefore alter ratings of patient satisfaction if their medical care does not meet their expectations. However, findings suggest that sociodemographic characteristics do not adequately account for differences in patient satisfaction. The only sociodemographic variable which had a significant direct effect on satisfaction in the final regression analysis was respondent education. Instead, the dimensions of care which were widely shared among patients (the structure, process and outcome determinants of care) appear to be better

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predictors of satisfaction.

The examination of the relationship between respondents' sociodemographic characteristics and the structure, process and clinical outcomes of care was to estimate a model of satisfaction that accounted for the indirect effects of these variables. For example, education was found to be positively associated with patient-provider communication which in turn was positively associated with patient satisfaction. Respondents who were highly educated were able to elicit more total communication from their health care providers than respondents with less education. Those with more education may be less intimidated by their physicians and better equipped to seek second opinions, question treatments and demand information about treatment risks, benefits and options. Health care providers may also be more accommodating when it comes to the disclosure of information to more educated patients, in part due to the underestimation of patient desire for information among less educated patients (Waitskin, 1984).

Despite the positive indirect effect of education on satisfaction, the direct effect of education on satisfaction was negative. That is, highly educated respondents were more likely to be dissatisfied with their care. Highly educated patients are thought to formulate more complex evaluations of their care or have higher expectations as they relate to clinical outcomes (Hall and Dornan, 1990). The finding that education was not associated with clinical outcomes may be one reason for highly educated respondents to be less satisfied with their care than lower educated respondents.

The extent to which sociodemographic characteristics covary with the structure, process and outcomes of care has definite implications for how patients derive their ratings

of satisfaction. For example, results indicated that patients who were more involved in their care were more likely to be satisfied. Female patients, in turn, were more likely to become involved in their care than male patients. However, even though female respondents were more involved in their care, that involvement did not translate into positive perceptions of clinical outcomes. In fact, men were much more likely than women to indicate that they had positive clinical outcomes. Case severity was not controlled for and may account for differences in clinical outcomes by gender. Gender role socialization as it relates to differential rates of health seeking behavior and the social acceptability of women to discuss symptoms and admit to illness may also account for differences in perceived clinical outcomes.

Not surprisingly, the perceived availability of medical services in the respondents' community was significantly correlated with the health region the respondent resided in. As expected, respondents in densely populated areas were much more likely to rate the availability of their medical services as high compared to respondents from sparsely populated areas. Disparities in funding between regions and fee-for-service remuneration for physicians have meant that some health regions have less available health care resources, especially those that involve highly specialized services and/or practitioners. The relatively smaller volume of medical services available may necessitate prospective patients to travel to health care facilities that have larger resources and more diversified medical services. More often than not, these medical facilities are found in densely populated health regions.

Notwithstanding a lack of perceived availability of medical services, respondents from sparsely populated areas tended to elicit more total communication from their providers

than respondents from densely populated health regions, despite having comparatively less access to specialists, physicians and other health care providers. The lack of medical specialists, however, may promote more continuous care from the same physician or health care provider. Modern medicine, especially in urban areas, has become increasingly fragmented due to the ever expanding range of services being subsumed by the medical field (Rachlis and Kushner, 1994). In sparsely populated areas continuity of care may provide the foundation for more total communication as opposed to seeing many different specialists and health care providers who may have less interest in imparting information to patients they do not see on a regular basis. Physicians from sparsely populated areas may also have a smaller patient base from which to draw patients and therefore may have more time for consultations, as opposed to physicians who have a much larger client base and who may have less time to spend on the communicative aspects of care as a result.

The health region that the respondent resided in was also significantly related to clinical outcomes. Respondents from sparsely populated areas were more likely to rate their outcomes of care as positive compared to respondents from densely populated areas. More continuous care may help elicit positive clinical outcomes insofar as providers with more intimate knowledge of their patients may be better able to accurately diagnose their patients or devise treatment regimens that will be successfully completed. More total communication from their providers may also mean that patients from sparsely populated areas are provided with more information concerning the pros and cons of various treatments as well as the expected success rates and recovery times. Armed with this information, patients may be more realistic in their expectations of their clinical outcomes and therefore less dissatisfied

with their clinical outcomes if their ideal expectations are not met.

Analysis of the bivariate regressions indicated that health status was a significant predictor of patient satisfaction, but when the covariation of the other predictor variables was removed, health status was no longer significant in the final analysis. This suggests that health status may be moderated by one (or more) variables. A given variable is considered to function as a moderator to the extent that it accounts for the relationship between a given predictor and the outcome of interest. Health status was significantly correlated with both the perceived availability of health services and clinical outcomes of care, both variables which were significantly related to patient satisfaction. Analysis of the partial correlations between health status and satisfaction controlling for these variables revealed that both perceived availability of medical services and clinical outcomes reduced the previously significant relationship between health status and patient satisfaction to nonsignificance. This relationship provides further evidence that health status was indeed moderated by perceived availability and clinical outcomes. Apart from health status, the remaining sociodemographic variables did not operate directly on satisfaction nor indirectly on satisfaction through the structure, process or clinical outcomes of medical care. Future research might be well served to focus less on the individual characteristics of patients and more on the structure, process and outcomes of care which are more indicative of medical system performance.

Respondents were asked to rate the availability of health care services in their community and to rate the ease of obtaining health care services if needed. In a meta-analysis of the literature, Hall and Dornan (1988a) suggested that access and availability to

medical services were only moderately correlated with overall satisfaction. The results of the present study, however, indicate that perceived availability is the most important dimension of care as it relates to overall satisfaction. The more available medical services were perceived to be in the respondents' community the more satisfied respondents were with their care. Respondents who perceived their medical care as readily available were also found to be more likely to have positive clinical outcomes. Patients who have readily available care will have less need to travel elsewhere to obtain medical services. For those with low incomes traveling may create a barrier to obtaining needed care because of the costs involved (e.g., taking days off work, costs of transportation, etc). Better clinical outcomes and greater convenience with respect to obtaining medical services, waiting times and transportation may all be reasons why patient satisfaction is positively related to the perceived availability of care.

Since clinical outcomes are often dependent upon quick and accurate application of medical services, it is not surprising that the availability of medical services is positively associated with clinical outcomes. For example, Houston and Pasanen (1972) identified access to available medical services as a significant correlate of perceived improvements in clinical outcomes. Patients who do not have readily available medical services (e.g., must travel long distances for care, or are put on waiting lists for needed treatments) may enter the health care system later. By receiving care later, those with emergency and/or life threatening health needs may receive less timely and less appropriate medical care and as a result may have poorer clinical outcomes compared to those who have relatively easy access to medical services.

In terms of the communicative dimensions of care, respondents who had more total communication with their health care providers were more likely to be satisfied with their medical care compared to respondents who had less total communication. This finding suggests that patients expect to receive information concerning their diagnosis and treatment and are unlikely to be satisfied with their care if such information is not forthcoming. To this end, effective patient-provider communication may also play an affective role in helping to allay patient fears and apprehensions. Patient experience with different dimensions of treatment and care is generally limited. If the patient does not understand the information specified by their health care provider the patient may not acquire the knowledge, skills or sense of control that may be needed in managing their illnesses and/or medical conditions.

Not surprisingly, patient-provider communication was also positively related to clinical outcomes. The literature would seem to dictate that patients who elicit more total communication from their health care providers are more likely to have successful diagnosis of their medical ailments, have treatment options explained more thoroughly and have more realistic expectations of treatment. Relatedly, misunderstandings as the result of poor communication may result in patients discontinuing or failing to adhere to treatment and recommendations (Comstock et al., 1982; Heszen-Klemens and Kapinska, 1984), both of which have definite implications for clinical outcomes.

Patient satisfaction with communication as it relates to both perceived clinical outcome and overall satisfaction suggests that more attention should be paid to the amount and type of information provided to patients and to ensure that enough information has been communicated to patients. Effective communication ensures that patients are able make

informed decisions concerning their care and that treatments are selected that best meet their personal needs. Patients who are unclear about the range of services that are available to them often cannot make informed decisions which ultimately may impact on the patients' recovery from their illnesses. Thus, a useful marker for studying clinical outcomes can be the effectiveness, accuracy and clarity of communication between patients and their providers.

Brody et al., (1989) found that patients who felt they were adequately educated about their medical problems by their physicians were more satisfied, had more opportunity to discuss areas of life stressors and were more likely to express their ideas about the nature and treatment of their health problems. Since communication plays a vital role in allowing patients to select treatment options that best suit their needs, it is not surprising that patient-provider communication was found to be positively related to how involved respondents were in their medical care.

Information enhances the patient's ability to actively participate in their medical care, insofar as many of the technical decisions concerning treatment are based on a weighting of different possible health-related outcomes. Joint decision making allows patients to become actively involved in developing a treatment regimen that will be adequately tailored to their unique situation, increase the likelihood of the successful completion of treatment and increase their satisfaction with their medical care. The finding that patient-provider communication and patient involvement are positively correlated has definite implications for providers who subscribe to the traditional biomedical view of patients as an "illness" to be manipulated, rather than an autonomous and active participant in the medical process.

Although patient involvement was found to be significantly and positively correlated with patient satisfaction, involvement had little to no effect on the respondents' clinical outcomes. Case severity was not controlled for, making it difficult to assess expectations for perceived clinical outcomes. It is also possible that certain subsets of patients (e.g., surgical patients) may be more involved in their medical care because they are often subjected to more invasive medical procedures and more extensive rehabilitation programs to facilitate recovery. Eliciting patient involvement among this subset of the patient population may be critical to facilitating positive clinical outcomes. Furthermore, the ratings of involvement used in this study are based solely upon respondents' subjective interpretations of their involvement in their care. It is quite possible that a relatively active patient may rate their involvement as low despite the fact that they remain more involved in their care than a relatively passive patient who rates their involvement as high if they take on even the smallest amount of responsibility for their care. A more valid measure of patient involvement as it relates to clinical outcomes may be to account for the extent to which interventions designed to facilitate active patient involvement are generally effective in promoting positive clinical outcomes for all patients or only for certain subsets of patients (e.g., surgical instead of medical patients).

Few studies have systematically examined the association between patients' perceptions of their clinical outcomes and subsequent ratings of satisfaction. Clinical outcomes should be related to patient satisfaction to the extent to which patients base their judgements of their medical care on their health status following treatment. As expected, respondents' perceived clinical outcomes were significantly related to their satisfaction with

care. More specifically, respondents who rated their clinical outcomes as positive were found to be much more satisfied with their care than respondents who rated their clinical outcomes negatively.

Since it is the patients who provide ratings of satisfaction, it is intuitively logical that the patients' perceptions of their health status following treatment should be used when rating the success of their clinical outcomes. Much of the literature concerning clinical outcomes, however, have used provider assessments of clinical outcomes. Generalizing provider assessments of clinical outcomes of care to patient ratings of satisfaction may have contributed to the lack of consistent findings concerning the relationship between these two variables. The results from this study indicate that not only are patient defined clinical outcomes of care significantly related to patient satisfaction, clinical outcomes are second only to the perceived availability of care in explaining the variance in ratings of satisfaction.

A relatively unexamined area of patient satisfaction has been the extent to which changes in the delivery of medical care affect ratings of satisfaction. The move away from institutional care to home care has shifted part of the burden of care to the families and friends of the sick and dying. Whether respondents viewed providing home care as a burden or inconvenience to their daily living was thought to impact on how satisfied respondents were with their medical care in general. Underlying this hypothesis was the notion that the economic, physical and emotional burdens that sometimes accompany providing home care would be cause for dissatisfaction.

The findings in this study would appear to support this hypothesis. It is quite possible that those who provide home care services may view the health care system as "letting them

down" insofar as home care providers must shoulder much of the burden of responsibility for the provision of health care services that had previously been the responsibility of paid health care professionals. Some home care providers may also feel that institutional care provides more comprehensive and better quality medical services, or that all things considered equal, home care comes with social, economic, physical and/or emotional costs.

While it would appear that not all home care providers view the provision of medical services as an inconvenience and remain quite satisfied, there is a significant proportion of home care providers who view the provision of such services as a burden. Changing demographics in Canadian society will result in increasing numbers of individuals in older age groups and the redistribution of health care services from institutional settings to home care environments is likely to continue. Within this context, home care needs to be critically examined from the provider perspective. Home care may reduce the financial strain on the Canadian health care system, however, relatively little research has been conducted to better understand the impact that home care has on those who provide much of the necessary care. The unforeseen emotional, physical and economic burdens for the providers of home care and its consequences for satisfaction necessitate that the examination of home care services must be broadened to include provider welfare.

Cleary and MacNeil (1988) found global measures of patient satisfaction were not necessarily reflective of those dimensions that are most closely related to quality medical care. Pascoe (1983) has argued that indirect approaches to measuring patient satisfaction are better suited for measurement of the macro domain of patient satisfaction and direct approaches are better used to measure the micro domain of satisfaction. Two measures of

patient satisfaction were developed to examine the sensitivity of the structural, process and outcome dimensions of care to direct and indirect measurement of patient satisfaction. The first measure entered each predictor variable on only the direct measures of satisfaction that composed the satisfaction index. The second measure was a repetition of the first but using only the indirect measures of satisfaction that composed the satisfaction index. Findings confirmed that indirect and direct approaches to the measurement of patient satisfaction assess different areas of satisfaction.

The dimensions of care that were most associated with specific and identifiable facets of the respondents' care explained the majority of the variance in direct measures of patient satisfaction. Clinical outcomes of care were most strongly related to patient satisfaction, followed by the perceived availability of care, patient-provider communication and the extent of patient involvement in medical care. The provision of home care services was not related to direct measures of patient satisfaction. Variables that were related to indirect measures of patient satisfaction, in order of relative importance include: the perceived availability of care, clinical outcomes of care, the provision of home care services and patient involvement in their care. Patient-provider communication was not significantly related to patient satisfaction, nor were any of the patients' sociodemographic characteristics.

The effects of patient involvement in their medical care remained relatively constant in both the direct and indirect measures of satisfaction, suggesting that respondents see involvement in care as indicative of both specific medical encounters and of the medical care system in general. The perceived availability of care was also highly significant in both direct and indirect measures of patient satisfaction. When indirect measures of satisfaction

were used as the dependent variable the availability of care was the most important variable in explaining satisfaction, whereas availability was second to clinical outcomes in explaining satisfaction when satisfaction was measured directly. To the extent that positive clinical outcomes are the most important aspect of medical care it is not surprising that clinical outcomes are the most important factor in explaining direct measures of satisfaction. The relative importance of the availability of medical care and clinical outcomes for both direct and indirect measures of satisfaction attests to the considerable weight that respondents place on having readily available medical services and the impact that these services have on their health status.

Patient-provider communication was insignificant when indirect measures of satisfaction were examined which would seem to indicate that when respondents are asked to rate their care in a more global manner, the importance of micro-level interactions with health care providers becomes less important. Relatedly, the provision of home care services was not significant in direct measures of satisfaction, but was highly significant when indirect measures of satisfaction were examined. Logically, the provision of home care services should not impact upon how home care providers interact with their own physicians and how involved they are in their care, and results seem to bear this out. However, when asked to rate the health care system in general, those who felt that providing home care services were an inconvenience/burden were much more likely to be dissatisfied.

The only sociodemographic variable that was found to be significant was age and only in the direct measurement of satisfaction. Findings indicated that older respondents were more satisfied with their medical care when they were asked directly about specific and

identifiable medical encounters. However, there was no difference in ratings of satisfaction based on patient sociodemographic characteristics when indirect measures of satisfaction were used as the dependent measure. These findings provide further evidence that the sociodemographic characteristics of patients are at best a minor predictor of patient satisfaction. Overall, theoretical and empirical evidence appears to support a distinction between direct and indirect measures of patient satisfaction and thus variables used to explain satisfaction should also be divided into whether they measure specific events (micro domain) or more global ratings of satisfaction (macro domain).

Conclusion

Although the literature suggests that there is a considerable amount known about the concept of patient satisfaction, the mechanisms by which patients derive their ratings of satisfaction required further clarification. The model of satisfaction presented utilized a multidimensional strategy for conceptualizing how patients arrive at their ratings of satisfaction with their medical care. Consistent with the literature, general levels of patient satisfaction were found to be quite high, however, a more in-depth analysis yielded more specific and detailed dimensions of how patients arrive at their ratings of satisfaction. The finding that patients discriminate between different dimensions of care is important in understanding how judgements of satisfaction are derived in response to interactions with the medical care system. Patients' satisfaction with their medical care appears to evolve from their interactions with the structure, process and outcomes of their medical services. One interpretation of the results found in the present study is that relative satisfaction with different dimensions of care is directly related to the actual performance of the health care

system, such that higher satisfaction reflects better system performance.

Results of numerous studies have been inconsistent leading to the necessity for further classification of the variables most important in explaining patient satisfaction. If ratings of patient satisfaction are to be used effectively for quality assessment, it is important to understand how patients' evaluations of care may be related to patient characteristics. As a result, it was necessary to identify the characteristics of patients which impact upon satisfaction, whether directly or indirectly through other mechanisms. Findings indicated that the respondents' sociodemographic characteristics (age, gender, health status, income, health region) did not make statistically significant contributions to the prediction of patients' overall satisfaction with their health care services. Instead, factors that emerged as influencing satisfaction were the availability of care, clinical outcomes of care, patient involvement in their care, patient-provider communication, the effects of providing home care responsibilities and respondents' education. Evidence from this study suggests that ratings of satisfaction are derived more from the patients' interactions with the structure, process and outcomes of their health care, rather than what kind of patient is being treated.

Measuring patient satisfaction can be an integral part of medical care quality assurance initiatives and may provide a means of identifying aspects of care which need improving. Unsatisfactory medical encounters increase the prevalence of non-adherence to treatment and poorer clinical outcomes. As a result, information on patient satisfaction can provide a dependent measure for medical care quality as well as to predict health-related behavior. The finding that greater patient involvement and communication with providers was positively related to patient satisfaction necessitates that greater emphasis be placed on

these dimensions of care.

The redistribution of responsibility for personal health care, however, is a complex issue. Patient willingness to adopt new behaviors and learn new self-care skills will not lead to better clinical outcomes and more satisfying health care experiences unless providers make similar adjustments in their own attitudes including: enlisting patient input, empowering patients and becoming more responsive to new patient roles. Furthermore, Speedling and Rose (1985) have indicated that patients with dependency needs or those who perceive their health as matters of luck or fate may offer resistance to the idea of active participation and involvement in their medical care. The power structure of the patient-provider relationship, coupled with the unequal control of information that health care providers have, necessitates further research into patient perceptions of their role in their medical care and how involvement interacts with both clinical outcomes and patient satisfaction.

In summary, this study indicates that patient satisfaction is most associated with direct patient interactions with the structure, process and outcomes of their care. These findings suggest several areas for further examination. First, the relative importance of the various dimensions of care involved in predicting patient satisfaction may be related to differences in the type of care provided to patients, the population in question and differences in how patient satisfaction is both defined and measured. Generalizability to other health care settings and patient populations has always been problematic within the satisfaction literature. Insofar as patients may have different hospital experiences and expectations of care depending on the severity of their illness or the type of treatment they receive, future research might want to compare patient populations across type of medical care (e.g.,

medical versus surgical care). Respondents with different medical conditions may receive treatment from different types of practitioners (e.g., specialists versus general practitioners) or informal health services (e.g., home care) that may subsequently alter how involved patients become in their care, the amount of communication they are able to elicit from their health care providers, clinical outcomes and ultimately ratings of satisfaction.

Second, a clear distinction should be made on the part of researchers to separate direct and indirect measures of satisfaction. Findings substantiated previous research in that questions which assessed specific and identifiable measures of the structure, process and outcomes of care provided better predictors of direct measures of satisfaction. Concordantly, questions which assessed more global dimensions of care provided better predictors of indirect measures of satisfaction. Conceptually, these variables have not been adequately separated in the literature. The lack of differentiation of indirect and direct measures of satisfaction as separate constructs contributes to the inconsistencies found in the literature and the inability to adequately define the concept of patient satisfaction.

Finally, future research should account for reciprocal and/or self-amplifying relationships that may exist between satisfaction and the structure, process and outcomes of care. Are patients that are more involved in their medical care more likely to be satisfied with their care, or are patients who are satisfied with their care more likely to be involved in their medical care? More than likely it is a little of both. The present study is limited in the respect that reciprocal relationships were not adequately accounted for, however, addressing this hypothesis was not the intention of this paper.

Despite these limitations, the findings of this study contribute to the development of

more valid and reliable measures of patient satisfaction. This study provides strong evidence that patient satisfaction must be conceptualized as a multidimensional construct. Traditionally, the measurement of patient satisfaction has long been hampered by the lack of variability in patient ratings of satisfaction. Findings indicate, however, that the variance of patient ratings of satisfaction can be increased if satisfaction is studied within the context of specific and identifiable episodes of care which account for the structure, process and clinical dimensions of medical care. The present study also provides strong evidence for the demarcation of satisfaction into direct (micro) and indirect (macro) contexts. More generally, this study demonstrates that measurement should not only be informed by theory, but also prefaced by context.

The present study contributes to the notion that methodologically and theoretically sound measures of patient satisfaction can be used as an important indicator of quality medical care services. The proposed model demonstrated that patients are able to differentiate between the various dimensions of their medical care and use their experiences to "rate" their satisfaction with their care. Findings supported this hypothesis, insofar as patients were able to derive ratings of satisfaction from a complex, yet subjective, analysis of their personal interactions with the structure, process and clinical outcomes of their medical care. Equipped with this information, patient perceptions of deficiencies in their medical care can provide the information necessary to enable health care administrators, policy analysts, practitioners and evaluators of health care to improve the efficiency, effectiveness and quality of medical care and better adapt health care services to the individual needs of their patients.

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Appendix A

Table 5
Availability Index
(N=424)

Items in the Availability Index*	Mean	SD
Q.11: Overall, how would you rate the availability of health care services in your community?	2.39	0.88
Q.13a: How easy or difficult is it for you to get the health care services you need when you need them?	2.40	0.99
Availability Index (Alpha = .074)	2.39	1.58

* Scores range from 1 to 4, and run negative to positive

Appendix B

Table 6
Communication Index
(N=411)

Items in the Communication Index*	Mean	SD
Q.08: In general, how would you rate your knowledge of the health services that are available to you?	2.81	0.85
Q.09: Do you think you need more information about the health services that are available to you?	2.76	1.48
Q.20: When you receive health services, how much information do you usually get from the health care provider about the services offered to you?	3.19	0.78
Q.22: Do you believe you have enough information to make informed decisions about the health care services you need?	2.91	0.83
Involvement Index (Alpha = 0.61)	2.92	2.62

* Scores range from 1 to 4, and run negative to positive

Appendix C

Table 7
Health Status Index
(N=422)

Items in the Health Status Index*	Mean	SD
Q.01: In general, compared with other people [how] would you say your health is?	3.48	1.07
Q.05: How would you describe your own level of need for health services during the past year?	3.34	1.51
Q.06a: Do you have a chronic health problem which requires regular health services?	3.63	1.90
Availability Index (Alpha = 0.62)	3.49	3.47

* Scores range from 1 to 5, and run negative to positive